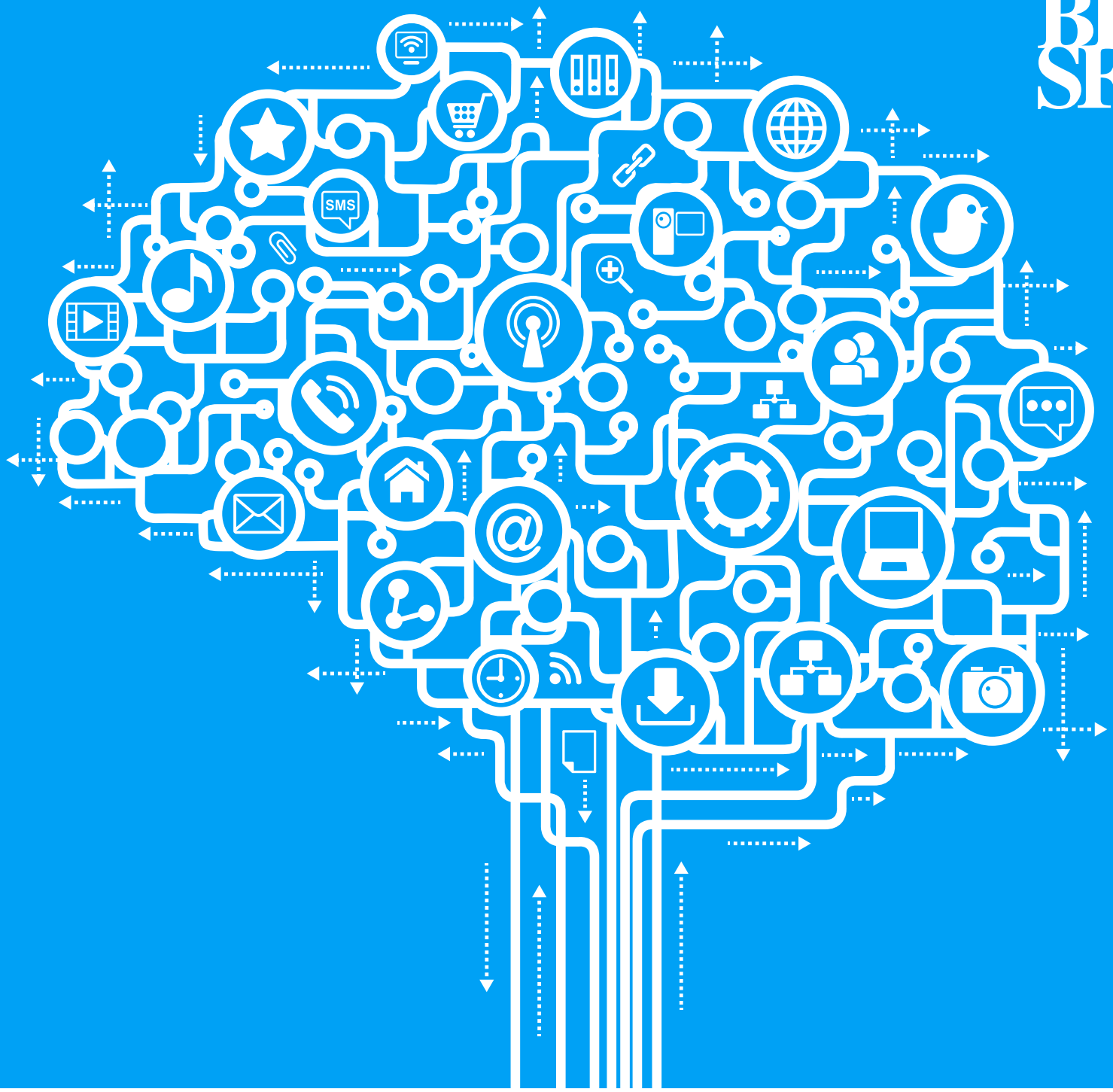


THE RICE CULTIVATOR

A Student Journal of Public Policy Research • Volume 5, Fall 2014

The Rice Cultivator, Volume 5

A Student Journal of Public Policy Research

Edited by Aruni Ranaweera and Zach Birenbaum

Rice University's Baker Institute Student Forum

These papers were written by a student (or students) who participated in a Baker Institute research project. The research and views expressed in these papers are those of the individual student(s) and do not necessarily represent the views of the James A. Baker III Institute for Public Policy.

Contents

Editors' Note

The Baker Institute Student Forum is pleased to present the fifth edition of The Rice Cultivator: A Student Journal of Public Policy Research. The Rice Cultivator is one of only a handful of public policy journals that is written, edited and published by undergraduate students. As an arm of Rice University's Baker Institute for Public Policy, the Baker Institute Student Forum publishes The Rice Cultivator in hopes of engaging undergraduate students in public policy research, showcasing the innovative research projects conducted by Rice University undergraduates, and promoting thoughtful, reasoned dialogue within the Rice community.

This edition of The Rice Cultivator is split into two sections. The first section presents papers by the winners of the Baker Institute Student Forum's inaugural Undergraduate Public Policy Conference last fall. The competition's theme was health care policy, and the winning papers all present policy solutions to the health care debate in the United States today. The authors in this section come from across the nation and include students from outside of Rice University. The second portion of this publication consists of five policy papers that cover a wide variety of topics, including both domestic and international policy. All of the papers in this section were submitted by Rice University students. We would like to thank all of the authors who submitted papers to be considered for The Cultivator.

Additionally, we would like to thank the Baker Institute's editorial and graphics departments. We appreciate all that you have done to help us this year with the unexpected twists and turns of the publishing process. We would specifically like to thank Lianne Hart, Julia Retta, Rebekah Skelton, Sonja Fulbright and Shawn O'Neill. We also extend many thanks to the Baker Institute Student Forum's faculty advisor, Joe Barnes, whose support of this publication ensures that it continues.

Please note that all views expressed herein reflect solely the opinions and perspectives of the authors and do not necessarily represent the views of Rice University's Baker Institute, Rice University or the Baker Institute Student Forum.

As always, we hope that The Rice Cultivator will spread the message that public policy exists in many forms and is accessible to all audiences.

Aruni Ranaweera
Zach Birenbaum
Editors, The Rice Cultivator

Addressing the Growing Abuse of Prescription Painkillers

by James Dargan '16
First Place Winner — BISF Undergraduate Public Policy Competition, 2013

Abstract

The nonmedical use and abuse of painkillers drives the current epidemic of prescription drug abuse in America. With over 12,000 overdose deaths and 360,000 emergency department visits attributable to narcotic painkillers in 2010 alone, reform must be implemented to curtail drug use and reduce the associated harm. Current federal policies aim at education, monitoring programs and disposal in hope of reducing the available drug supply. Five major new proposals are presented in this paper: 1) conduct reliable comparative research on alternatives to narcotic painkillers; 2) legalize medicinal marijuana; 3) conduct a pilot-program study of a narcotic painkiller buy-back program; 4) universally adopt medical amnesty clauses for nonmedical drug use; and 5) facilitate easier access to Nalaxone.

Advantages and Risks of Narcotic Pain Relievers

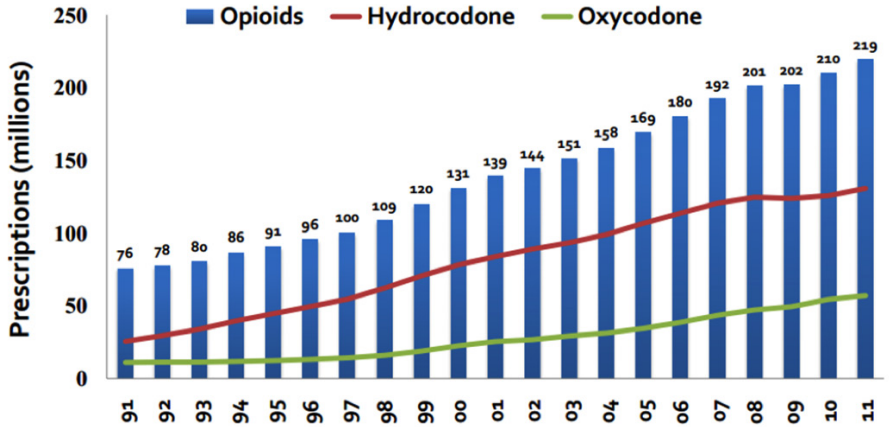
Narcotic pain relievers (NPRs) collectively refers to the brand name and generic versions of codeine, hydrocodone, methadone, morphine, oxycodone and others, otherwise referred to as opioids and opiates. This class of pain medication provides the strongest pain relief but also the greatest health risks. The weaker NPRs are frequently prescribed after mild surgeries or less painful conditions while the strongest NPRs are typically restricted to patients experiencing severe chronic pain. The literature has found opioids to be effective in short-term pain management, but uncertainty remains over long-term use.[1,2] Some studies have failed to find any efficacy at all. A range of side effects, including nausea and constipation in the short term and potential decreased pain tolerance and addiction in the long run, have given pause to physicians. Frequently, trials are plagued by high dropout rates attributed to a mix of inherent health conditions and adverse side effects.[3,4] Those who consume NPRs to "get high" off painkillers risk developing tolerance, which, if unconstrained, could lead them toward addiction, a condition which is increasing within users.

Trends in Nonmedical Use of Narcotic Pain Relievers

Prescriptions of NPRs are widespread. The number of NPR prescriptions increased by 46 percent between 2002 and 2012, rising from 144,000 to 210,000.[5] Figure 1 displays this trend graphically by year. This proliferation of prescription feeds the consumption habits of nonmedical users. The news media most frequently reports the sources of nonmedical NPRs as "pill mills" — physicians with lax standards for prescribing NPRs to interested

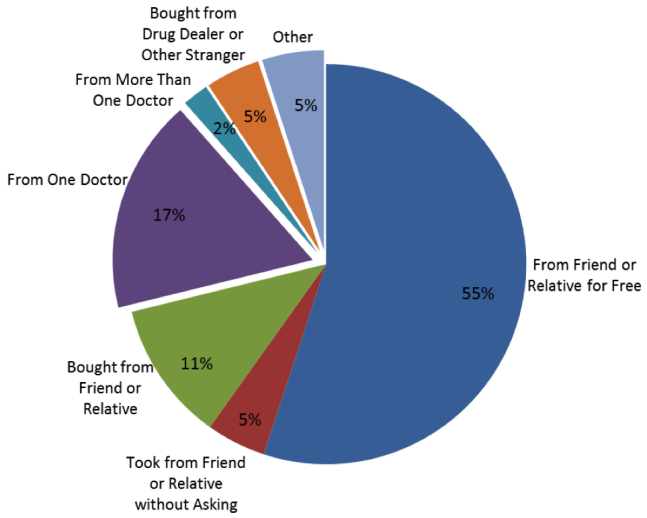
patients — and "shopping" — where individuals visit and receive prescriptions from multiple doctors during a short time period. In practice, these methods contribute minimally to the accessibility of NPRs to nonmedical users. Figure 2 displays the distribution of sources of NPRs for nonmedical users, with friends and relatives making up a sizable majority. Survey data from 2010 divides the source of NPRs for consumers as follows: 55 percent free from a relative or friend, 11.4 purchased from a relative or friend, 4.8 percent stolen from a relative or friend, 17.3 percent from one doctor, 4.4 percent from a drug dealer or stranger, and 0.4 percent from the internet.[6]

Figure 1 – Narcotic Pain Relievers Prescriptions Issued by Year



Source: Wilson Compton, "Prescription Drug Abuse: It's Not What the Doctor Ordered," http://www.pdmpassist.org/pdf/PPTs/National2012/1_Compton_NIDAUpdate.pdf.

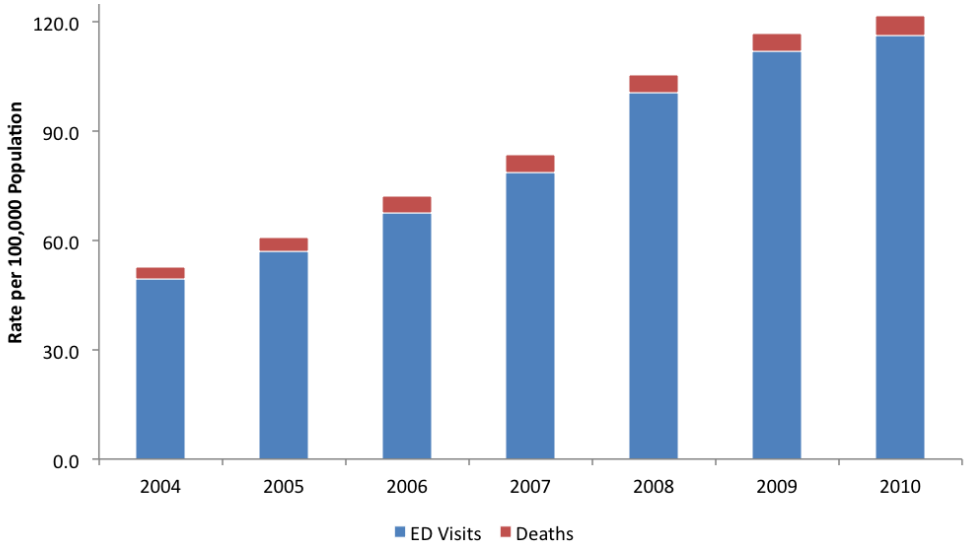
Figure 2 – Source of Narcotic Pain Reliever Consumed for Nonmedical Purpose



Source: "Results from the 2010 National Survey of Drug Use and Health," Center for Behavioral Health Statistics and Quality.

The number of medical emergencies due to nonmedical use of pain medications has risen dramatically in recent years, motivating concern regarding the dangers of abuse. From 2004 to 2010, the number of emergency department (ED) visits due to nonmedical use of narcotic pain relievers increased by 149 percent (compared to an increase of 119 percent for all pharmaceuticals) from 145,000 to 360,000. NPRs accounted for 30.7 percent of all emergency visits for nonmedical use of pharmaceuticals in 2010 at 360,000 visits.[7] This spike correlates with an even more concerning growth in overdose deaths, of which more than 40 percent were NPR induced. Deaths from NPR overdose quadrupled from 1999 to 2010, surpassing 16,000 deaths a year, which motivated the CDC to label it an epidemic.[8] That translates to 986 ED visits and 43 deaths per day, and the rate continues to climb as depicted in Figure 3.

Figure 3 – Emergency Department Visit and Overdose Death Rates by Year



Source: "Results from the 2010 National Survey of Drug Use and Health," Center for Behavioral Health Statistics and Quality; "Drug-poisoning Deaths Involving Opioid Analgesics: United States, 1999-2011," National Center for Health Statistics, Centers for Disease Control, http://www.cdc.gov/nchs/data/databriefs/db166.htm.

However, the relative percentage of individuals using painkillers without a prescription has grown slowly during this time. The number of first-time nonmedical NPR users was 2 million in 2010, less than in 2002. Despite the high rate of first time use, the number of frequent users of general painkillers (as measured by respondents having used within the last month) has grown by only 700,000 in this same time period, reaching 5.1 million in 2010. Frequent use within youth aged 12 to 17 has declined in relative terms from 3.2 percent to 2.5 percent. Nonmedical use within the last year has also declined for youth from 7.7 to 6.2 percent, and the rates for those aged 18 to 25 have remained relatively stable. The number of individuals seeking professional treatment for NPR use doubled during this time.[9]

Furthermore, a sizable increase in emergency room visits can be attributed to adverse reactions to legitimate prescriptions. A 70 percent increase in emergency visits was observed

between 2005 and 2010 for those properly taking painkillers, with reactions to narcotic painkillers composing 8.9 percent of all adverse reaction admissions in 2010. This amounts to over 207,000 visits.[10]

Besides the health concerns associated with nonmedical NPR use, there are extraordinary economic costs. The Coalition Against Insurance Fraud estimates drug diversion — redirecting prescriptions toward or obtaining new prescriptions for recreational use — costs insurers as much as US$72.5 billion (2007 dollars).[11] Another study estimated the cost at US$55.7 billion (2007 dollars), of which $25 billion was direct health care costs.[12] The majority of the cost comes from the medication itself and emergency treatment in EDs. At the individual level, an opioid abuser's direct health care costs are eight times higher than a non-abuser.[13]

Premises for Policy Consideration

1. Total prescriptions for NPRs are rapidly growing.
2. Popularity of nonmedical NPRs is increasing slowly for frequent use but decreasing for rare use.
3. Youth experimentation with nonmedical NPR use is not increasing.
4. A marginal fraction of individuals who engage in nonmedical NPR use become frequent users
5. Over two-thirds of NPRs come from friends or relatives.[14]
6. The "shopping" phenomenon is overrepresented and contributes little to overall accessibility.
7. "Pill mills" may directly and/or indirectly contribute to accessibility.
8. There is a pronounced spillover effect from prescription recipients to acquaintances.
9. Both nonmedical and medical use of NPRs produce high rates of emergency medical conditions and overdose-induced deaths.
10. NPR abuse presents a significant economic burden to consumers, insurers and governments.

Current Policy

At the federal level, the White House, the Food and Drug Administration and the Department of Justice have released plans of action to curtail the rise in nonmedical prescription use. The White House's plan identified four major pillars: education, tracking and monitoring, proper medication disposal and enforcement.[15]

Education

Education presents the greatest potential for policymakers to nudge doctors away from excessive prescription of NPRs. Teaching physicians to identify signs of abuse or diversion can reduce the growth of abuse. One survey found that only 19 percent of physicians received training in identifying drug diversion, only 40 percent received training in identifying drug abuse and addiction, and one-third of physicians don't even check a patient's record from another doctor before prescribing drugs on a long-term basis.[16] Nonmedical NPR users exploit gaps like these to obtain unjustified prescriptions. Teaching physicians how to identify potential abuse will reduce the availability of prescriptions to those who seek only to abuse it.

More importantly, physicians need to be educated about the very real dangers associated with opioid use. The White House strategy is on target in this regard, emphasizing the importance of training physicians while encouraging patient engagement.

The FDA complements this effort in its own initiatives.[17] Calling for greater research into understanding the nature of pain and pain management options will provide greater understanding to physicians seeking to dampen patients' pain through smarter treatments. Assisting in educating physicians about responsible practices in opioid prescribing will reduce harms to patients. The initiative to improve opioid product labels represents a good thought, though its impact will be non-existent absent a black box warning.

Relying on education programs too heavily, however, overlooks the need for viable alternatives. Training physicians to identify drug abuse and diversion will tighten access for drug abusers; however, physicians still need to reduce the over-prescription of opioids to patients experiencing real pain. The rapid growth in NPR prescriptions may not be justified medically. Some physicians have taken a carefree attitude toward NPRs at the expense of patient safety and health. A comprehensive policy needs to pursue alternatives to NPRs, providing physicians with options to choose from so that when confronted by a suffering patient with potentially complicating conditions, he or she is not forced into a yes-or-no situation.

Tracking and Monitoring Programs and Enforcement

The rapid adoption of prescription monitoring programs (PMPs) by state legislatures provided the infrastructure to identify physicians intentionally or unwittingly acting as "pill mills." Forty-six states have a function PMP, and three others have passed legislation.[18] Evidence has shown PMPs reduce prescription abuse/misuse. Additionally, PMPs offer a potential resource for physicians to consult before prescribing opioids, preventing inappropriate prescriptions from being issued.

Disposal

The spillover effect from the accumulation of unused prescriptions likely drives a large portion of nonmedical NPR use. Over two-thirds of nonmedical drug users obtain supplies from friends or family, most of the time for free, as shown in Figure 2 previously. About 80 percent of this supply originates with individuals receiving a prescription from a single doctor. This suggests the vast majority of secondary movement of prescriptions comes from a spillover effect, where the original recipient ceases using the medication prior to running out of supply and in turn passes on the remaining supply to the friend or relative surveyed.

A major initiative of President Obama's administration was the enactment of a prescription take-back program. The DEA has already organized six national prescription drug take-back days. Disposal programs are intended to reduce this spillover effect by encouraging individuals to remove any and all excess prescriptions from their possession; the idea being disposing of leftover prescriptions will prevent those prescriptions from later being passed on to those who might abuse them. Combining all six take-back days thus far, the DEA has collected over 2.8 million pounds of medications.[19]

The take-back program proved valuable, but significant limitations must be recognized. The program requires significant manpower and advertising resources. Even after enlisting community groups, businesses and so forth, an information barrier will persist. The majority of community members will remain unaware. The single-day nature of the program may impede accessibility for community members and restrict the number of people who can be assisted. In short, a whole range of logistical difficulties emerges that is costly, restrictive and limited in impact. Maintaining the existing take-back program and combining it with a more narrowly focused, but broader reaching, program might more effectively reduce the quantity of prescriptions available.

Criminal Penalties

Federal policy currently targets the supply of prescriptions commonly abused. Harm reduction seems to be a major goal of current efforts. In sharp contrast to the failed policies of the Nixon and Reagan eras, little attention has been directed toward punishment. The enforcement discussion within the White House strategy memo only mentions prosecution of physicians unethically supplying commonly abused prescriptions. However, the legacy of the war on drugs remains, and NPR use, along with all other abused prescriptions, still contributes to the arrest and prosecution of ordinary users. A simple Google search yields an assortment of news articles for high profile arrests related to painkillers.

The illegal nature of nonmedical NPR use and the system of criminal punishment produce an undesirable fear of seeking medical help when needed. A number of surveys have been conducted, primarily interviewing heroin addicts. The surveys consistently demonstrate calls for help occur in less than 50 percent of cases of overdose, with fear of police involvement being the most frequent reason for not seeking emergency help.[20] Two studies examining alcohol and college students found amnesty policies did increase the rate at which students sought medical help.[21]

New Policy Options

New policies must redress the two deficiencies identified in current policy. Namely, the need to provide physicians alternatives to NPRs to effectively treat patients and to adopt a complementary system to the existing buy-back program that is more widely accessible but more narrowly focused. Policies should also strive to reduce the harms associated with nonmedical NPR use and abuse.

Pursue Alternatives to NPRs

Acupuncture

Previous research examining the efficacy of acupuncture for pain relief produced mixed results. A range of pain conditions has been studied to demonstrate efficacy, including heel, neck, back and dental pain treatment.[22] Efficacy remains highly controversial, however, with the National Institutes of Health and the British Medical Association diverging; the BMA endorsed acupuncture's efficacy while the NIH denied it. This uncertainty alone doesn't justify preventing physician's from prescribing acupuncture as a primary or secondary treatment method for pain.

Acupuncture may be desirable in two ways. First, acupuncture does no harm. Unlike the plethora of pharmaceuticals available for pain treatment, acupuncture produces negligible side effects so long as clean needles are used.[23] Acupuncture may be a substitutionary or complementary procedure to relieve pain, presenting no barrier to obtaining or utilizing prescriptions. Second, as referenced above, some research credits acupuncture with efficacy. Only a patient can identify if acupuncture provides detectable pain relief.

Medicare and Medicaid currently refuse to cover acupuncture as part of their insurance programs. They cite "lack of proven efficacy" when really this only reflects institutional bias. Most NPRs available have questionable evidence of efficacy for the conditions for which they are prescribed. However, waste prevention provides an alternative, compelling justification from which the decision is likely based. Even at only $50 dollars a session, widespread acupuncture use without real health benefits would burden an already struggling system. To balance the competing goals of access and waste prevention, Medicare, Medicaid and private insurers should commit to insure acupuncture when utilized as an alternative to NPRs.

This approach reduces waste concerns by limiting coverage to substitution. Without this restriction, insurers could spend a high portion of expenditures for acupuncture coverage on individuals who simply add it to existing medication treatment. If acupuncture were proven effective, full coverage would be desired simply for the benefits of pain reduction and combined usage would be highly encouraged because insurers would know this treatment provides a value in the form of reduced pain. Current data provides insufficient evidence to unambiguously conclude efficacy, so spending on acupuncture in combination with other treatments could be wasteful. Combining treatments blurs relief received from one or the other treatment. Given the ambiguity of efficacy, limiting coverage to substitution prevents this wasteful situation.

This approach also produces a mechanism to conduct an observational study. The restriction provides a financial incentive for patients to utilize acupuncture in isolation instead of in combination with a prescription painkiller. Given that acupuncture provides the only pain relief available besides over-the-counter painkillers, which cannot be accounted for, it follows that patients whose pain persists would seek prescription relief from their physician in a short amount of time. Those who experience relief will be content with acupuncture alone. For the purposes of the study, insurance could cover the full cost of acupuncture services. This would provide a financial incentive for patients to remain with the acupuncture treatment. Patients experiencing moderate pain relief would weigh the expense of losing the acupuncture treatment and price of a drug in their decision. Researchers could examine the frequency and speed at which patients return to their doctor for a prescription after beginning acupuncture. Surveys could be introduced to monitor additional factors that might influence this decision, such as lack of time for acupuncture treatments. A rapid return for prescription would suggest minimal efficacy, while a low frequency rate would suggest efficacy and a channel to reduce the frequency of new NPR prescription issuances. Thus, insurance agencies should offer full coverage of acupuncture absent painkillers prescriptions and conduct an observational study on new patients experiencing mild pain who choose to participate in order to indirectly

examine the efficacy of acupuncture in real world experience. If subsequent research demonstrates acupuncture efficacy as a substitute, new efforts should be made to encourage physicians to follow this practice.

Medicinal Marijuana

Medicinal marijuana boasts the status of the most politicized health issue in the country. The debate over prohibition in general and the specific debate on medicinal marijuana need not be repeated here. The arguments are well established. Separating the health issues from the political issues, medical marijuana policy should be based on health benefits and health risks.

Examining medical marijuana from a health perspective produces inconclusive results on appropriate use. Evidence supports claims that medicinal marijuana can reduce pain while noting potential adverse health outcomes.[24] The debate centers around the harm-benefit considerations between pain reduction and negative side effects. This is not a legal question, it is a medical question. The very existence of conclusive evidence demonstrating pain relief ought to be sufficient to legalize marijuana from a health perspective.

The decision to authorize marijuana consumption is a medical decision best made by physicians. Physicians can review the harms and benefits of marijuana identified in research, examine a patient's condition and judge the appropriateness of its use for pain relief. Even the most adamant opponents of marijuana must recognize the abundance of patients who testify to the relief they gained from its use. Opponents may point to side effects, which are considerable, but the alternative is NPRs, which have considerable side effects as well. Ultimately, the decision to prescribe marijuana must be made on a case-by-case basis.

This proposal is hindered by a lack of comparative understanding. In the case of acupuncture, the potential side effects are slight enough to be ignored as a cause for concern. In the case of medicinal marijuana use, supporters must acknowledge the presence of some adverse health risks. New comparative research must examine the relative benefits and harms of marijuana compared to NPRs and acupuncture. Completed comparative research will provide necessary insights to settle the debate over appropriateness of use, but even then, as always, physicians should retain discretion in use to account for patient variability.

Fund a Pilot Direct Buy-Back Program

Survey data reviewed above provide strong evidence that leftover pills directly enable nonmedical NPR use. Individuals consume only a portion of the amount prescribed and retain the excess at their homes, where it is later transferred to another's possession without medical consultation. Reducing this supply has been a major goal of the ongoing national take-back campaign administered by the DEA. However, a year-round program that requires fewer resources could more efficiently reduce the NPR supply.

Federal or state funding should be appropriated toward an experimental buy-back program administered through local pharmacies. Patients would be notified upon filling a prescription that they could receive a partial refund in cash for returning unused NPRs within a time

constraint. Pharmacies would be authorized to collect these NPRs and provide the cash reward. The appropriate government agency would collect the NPRs from the pharmacies, return them to the distributor and reimburse the pharmacies for their payouts. Researchers would determine whether the program contributed to an increase in safe disposal of NPRs and estimate the potential impact of such a program on overall supply. Patients could be required to fill short, anonymous questionnaires to provide researchers with sufficient information for their purpose.

The advantage of this proposal is ease of use and incentives. Some individuals will properly dispose of NPRs responsibly and some will keep and divert them regardless of policy. The target population of this proposal lies in the middle, those who wish to be responsible but are not actively concerned with it. Conducting such a program through a pharmacy minimizes the burden of participation since the pharmacy from which an individual fills prescriptions likely sits in close proximity to his or her place of residence. The financial incentive intends to nudge individuals who would otherwise not exert the effort required to properly dispose of NPRs; it produces the spark for an individual to recognize he could drop off his excess pills while running errands and be rewarded for doing so.

If a successful proof of concept, this pilot program could pave the way for a broader buy-back system for specific medications that present significant potential for misuse. NPRs provide a valid starting point due to the significance of painkillers as a proportion of all nonmedical drug use. Successful implementation on a wide basis would seek to motivate enough participants to substantially reduce drug diversion from current rates and, in doing so, reduce the supply of NPRs available.

This policy risks affecting the wrong subpopulation and producing unjustified cost. A buy-back program aims to alter the behavior of the marginal NPR possessors, but the policy naturally affects those engaging in responsible disposal already. Many individuals currently dispose of unused NPRs immediately in a safe manner. The financial incentive would motivate these individuals to shift their behavior toward disposing of excess NPRs at the participating pharmacy. This behavior shift would cost taxpayer money without affecting the overall drug supply. This proposed program risks merely shifting method of disposal at a significant cost to taxpayers. Researchers would be tasked with identifying methods to reliably determine who responds to the program and the net impact on the supply. The whole program evaluation and insights for policymakers depends on these conclusions.

Reduce Deadly Harms of NPR Abuse

Drug abuse will never disappear completely. Despite the best efforts of health officials, physicians and all others involved, a portion of NPRs will be diverted toward drug abuse. The current prohibition regime seeks to deter use before it happens, but experience has proven the deterrent approach ineffective. All law enforcement agencies must view drug abuse as a health issue first and foremost. Placing harm-reduction first in priority will reduce the negative consequences of the inevitable drug abuse that does occur.

Adopt Medical Amnesty Policies

No human being should ever be faced with a choice between death and prison, but the current criminal approach to drug abuse does just that. The deterrent effect sought by law enforcement to prevent use frequently deters emergency medical assistance instead. Witnesses seek out emergency medical assistance less than half the time an overdose is witnessed. Some surveys place that figure at a quarter. Most of these surveys are based on heroin users, so these estimates should not be applied at face value to prescription drug abuse.[25] Several influential factors have been identified as exerting limited influence, but the number one reason for this low percent is fear of law enforcement.[26] Criminal enforcement of prohibition laws deters drug users from seeking necessary medical help and directly contributes to the growth of overdose deaths accompanying increased use.

A harm-reduction approach would seek to encourage nonmedical NPR users to seek help whenever an overdose occurs. Policy must remove fear from decision-making. Medical amnesty clauses provide legal protection to drug users who seek emergency medical assistance. States across the country should adopt medical amnesty clauses to encourage nonmedical prescription drug users to seek help when someone experiences an adverse health reaction.

The concept of medical amnesty has been widely accepted to address alcohol use. Universities faced a dilemma between obligations to the law to enforce the legal drinking age and obligations to student safety. Prior to alcohol amnesty policies, students were afraid to call for help out of fear of punishment for breaking the legal drinking age. Now, students are safe to seek help whenever needed. A case study of Columbia University found alcohol-related medical calls increased after the adoption of alcohol medical amnesty despite stable consumption rates.[27]

The abuse of prescriptions parallels this dilemma. Past experience demonstrates amnesty improves safety. Nine states have already adopted full medical amnesty clauses; the other 41 should follow suit.

Increasing Naloxone Access

NPR abuse has driven the surge in overdoses and deaths related to drug abuse and opioids in particular. Luckily, there is an antidote. Naloxone is an "opioid antagonist" that counteracts the effects of opioids. Its main application is in reversing opioid-induced overdoses by preventing the opioid-caused depression of the central nervous system and respiratory system.[28] Currently, naloxone is administered by emergency responders and in hospitals' emergency departments.

Classifying Naloxone as an over-the-counter medication would enable ordinary citizens to purchase Naloxone without a prescription. This would provide valuable access to individuals who plan to or know someone who plans to engage in recreational consumption of opioids. Equipping ordinary individuals could reduce the time lag between recognition of an overdose and administration of this life-saving medication. The shorter the time lag, the greater the probability of survival.

Concluding Remarks

Prescription abuse presents an urgent health crisis to be addressed. Politics, however, will impede many efforts. The pursuit of alternative pain treatments has already begun, but including medicinal marijuana will be difficult. Any mention of marijuana invokes an immediate backlash against being "pro drug use" or "soft on crime." Medicinal marijuana will likely continue to be decided state by state under constant fear of federal intervention. The buy-back program would face difficulties in acquiring the necessary budgetary funding. Given the current climate in budget talks, now seems a bad time to propose new spending. The pilot program should not prove too expensive, but identifying private partnerships to assist in conducting the program would greatly improve the likelihood of a successful test run. Providing medical amnesty and Naloxone access are the most feasible proposals politically. Neither requires government funding, and both leave the larger current prohibition system in place. The narrow applicability of medical amnesty to the most urgent setting avoids much opposition from supporters of prohibition.

Endnotes

1. Andrea M. Trescot, M.V. Boswell, S.L. Atluri, H.C. Hansen, T.R. Deer, S. Abdi, J.F. Jasper et. al., "Opioid Guidelines in the Management of Chronic Non-cancer Pain," *Pain Physician* 9, no. 1 (2006): 1-39.

2. Trescot et. al. (2006) provides a detailed overview of prescription patterns, risks, efficacy and various policy challenges relating to pain treatment.

3. Laxmaiah Manchikanti, "National Drug Control Policy and Prescription Drug Abuse: Facts and Fallacies," *Pain Physician* 10, no. 3 (2007): 399-424.

4. Eija Kalso, Jayne E. Edwards, R. Andrew Moore, and Henry J. McQuay, "Opioids in Chronic Non-cancer Pain: Systematic Review of Efficacy and Safety," *Pain* 112, no. 3 (2004): 372-380.

5. Wilson Compton, "Prescription Drug Abuse: It's Not What the Doctor Ordered" (paper presented at the annual meeting of the Harold Rogers Prescription Drug Monitoring Program, Washington, DC, June 4, 2012).

6. "Results from the 2010 National Survey of Drug Use and Health," Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, accessed September 15, 2014, http://www.samhsa.gov/data/NSDUH/2k10NSDUH/2k10Results.pdf.

7. "Drug Abuse Warning Network, 2010: National Estimates of Drug-Related Emergency Room Visits," Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration, accessed September 15, 2014, http://www.samhsa.gov/data/2k13/DAWN2k10ED/DAWN2k10ED.htm.

8. Leonard J. Paulozzi, Christopher M. Jones, Karin A. Mack, and Rose A. Rudd, "Vital Signs: Overdoses of Prescription Opioid Pain Relievers – United States, 1999—2008," *Morbidity and Mortality Weekly Report* 60, no. 43 (2011): 1487-1492.

9. "Results from the 2010 National Survey of Drug Use and Health," Center for Behavioral Health Statistics and Quality.

10. "Drug Abuse Warning Network, 2010," Center for Behavioral Health Statistics and Quality.

11. William J. Mahon, *Prescription for Peril: How Insurance Fraud Finances Theft and Abuse of Addictive Prescription Drugs*, Coalition Against Insurance Fraud, accessed September 15, 2014, http://www.insurancefraud.org/downloads/drugDiversion.pdf.

12. Howard G. Birnbaum, Alan G. White, Matt Schiller, Tracy Waldman, Jody M. Cleveland, and Carl L. Roland, "Societal Costs of Prescription Opioid Abuse, Dependence, and Misuse in the United States," *Pain Medicine* 12, no. 4 (2011): 657–667.

13. Bryan N. Cochran, Annesa Flentje, Nicholas C. Heck, Jill Van Den Bos, Dan Perlman, Jorge Torres, Robert Valuck et al., "Factors Predicting Development of Opioid Use Disorders among Individuals who Receive an Initial Opioid Prescription: Mathematical Modeling Using a Database of Commercially-insured Individuals," *Journal of Managed Care Pharmacy* 11, no. 6 (2005): 469–479

14. The grouping of "friend" and "relative" blurs otherwise important distinctions. A respondent identifying a relative likely reflects excess medication from previous prescriptions that were transferred in good faith. A respondent identifying a friend may also reflect a good faith transfer, but it also contains a higher proportion of deliberate transfers for intentional nonmedical use. Additionally, the "purchased from a relative or friend" response may capture a sizable fraction of commercial drug purchases from drug dealers who have a personal connection to the respondent that dominates the commercial component. Cultural stigma against the position of drug dealer may also lead to underestimating this share. Thus, biased responses and the combining of fundamentally different means of transfer act as major limitations.

15. "Epidemic: Responding to America's Prescription Drug Abuse Crisis," Office of National Drug Control Policy, Executive Office of the President, accessed September 15, 2014, http://www.whitehouse.gov/sites/default/files/ondcp/issues-content/prescription-drugs/rx_abuse_plan.pdf.

16. Manchikanti, "National Drug Control Policy and Prescription Drug Abuse."

17. "FDA's Efforts to Address the Misuse and Abuse of Opioids," Food and Drug Administration, accessed September 15, 2014, http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm337852.htm.

18. "Prescription Drug Monitoring Programs Updated 1-26-14," National Association of State Controlled Substance Authorities, accessed September 17, 2014, http://www.nascsa.org/nascsaPMP/NationalPDMPmap1.26.14.pdf.

19. "Public Response to DEA's National Prescription Drug Take-Back Days Keeps Growing," Drug Enforcement Agency, accessed September 15, 2014, http://www.justice.gov/dea/divisions/hq/2013/hq050213.shtml.

20. Karin E. Tobin, Melissa A. Davey and Carl A. Latkin,"Calling Emergency Medical Services During Drug Overdose: An Examination of Individual, Social and Setting Correlates," *Addiction* 100, no. 3 (2004): 397–404.

21. "Call 911 Good Samaritan Laws," Students for a Sensible Drug Policy, accessed September 15, 2014, http://ssdp.org/campaigns/call-911-good-samaritan-policies/.

22. "Acupuncture: What You Need to Know," National Institute of Health, National Center for Complementary and Alternative Medicine, accessed September 15, 2014, http://nccam.nih.gov/health/acupuncture/introduction - use.

23. "Acupuncture: What You Need to Know," National Institute of Health.

24. Eva Martin-Sanchez, Toshiaki A. Furukawa, Julian Taylor, and Jose Luis Martin, "Systematic Review and Meta-analysis of Cannabis Treatment for Chronic Pain," *Pain Medicine* 10, no. 8 (2009): 1353-1368.

25. Obtaining information directly from nonmedical drug users faces logistical barriers. Prescription consumption is hidden, requiring only a few seconds to pop a pill, easily integrated into normal settings and geographically dispersed. Heroin use tends to be highly visible and concentrated in specific communities, lending itself to academic research through interviews.

26. Karin E. Tobin, Melissa A. Davey, and Carl A. Latkin,"Calling Emergency Medical Services During Drug Overdose: An Examination of Individual, Social and Setting Correlates," *Addiction* 100, no. 3 (2004): 397-404.

27. Deborah K. Lewis and Timothy C. Marchell,"Safety First: A Medical Amnesty Approach to Alcohol Poisoning at a U.S. University," *International Journal of Drug Policy* 17, no. 4 (2006): 329-338.

28. "Understanding Naloxone," Harm Reduction Coalition, accessed September 15, 2014, http://harmreduction.org/issues/overdose-prevention/overview/overdose-basics/understanding-naloxone/.

The Impact of Cost Sharing on Health Expenditure and Health Utilization

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Introduction

The U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality defines cost sharing as "any contribution consumers make toward the cost of their health care as defined in their health insurance policy" (U.S. Department of Health and Human Services). Each insurance policy has provisions that require the insured to pay a portion of expenses covered under the plan. Thus, even countries with universal health care systems utilize some form of cost sharing for covered services. Historically, health care systems have implemented varying degrees of cost sharing to help reduce health utilization by discouraging the use of unnecessary health services and promoting the use of cost-effective ones (Schwartz 2010). Cost sharing is usually implemented through the use of copayments (flat amounts an insured individual must pay out-of-pocket), coinsurance (the percentage of medical costs that an individual must cover), and deductibles (lump-sum amount that an insured individual or family must spend out-of-pocket before another health insurance policy kicks in).

This paper looks to investigate the effect of cost sharing on total health expenditure and on health utilization. Cost sharing is implemented because it is said to discourage the use of inefficient health services, which suggests that there should be a statistically significant difference between total health expenditure and health utilization of countries with cost sharing and those without cost sharing for medical care, hospital care and pharmaceutical care.

To test this hypothesis, we selected 28 countries that have Health Systems in Transition (HiT) reports, which are country-specific health system reports released by the European Observatory on Health System and Policies. While HiT reports are available for over 50 countries, we chose to analyze cost sharing in only 28 countries. The criterion for selection was countries that have both HiT reports and health care data released by the Organisation for Economic Co-operation and Development (OECD).

The OECD currently consists of 34 countries; out of which, Mexico and Chile were excluded from our analysis because HiT reports do not exist for these countries. Russia was excluded because OECD health care data does not exist for Russia, and Turkey was excluded because its cost is a low outlier and its health system is not as modern, comprehensive or universal as the other countries. Finally, Hungary and Slovenia were excluded because their HiT reports were extremely vague and did not mention the degree of cost sharing in the three sectors that we are analyzing. Thus, the final list of countries includes: Australia, Austria, Belgium, Canada,

Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Israel, Italy, Japan, Luxembourg, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, South Korea, Spain, Sweden, Switzerland and the United Kingdom.

As this paper deals with the impact of cost sharing on total health expenditure, we measure total health expenditure in two ways: both as a percentage of GDP and per capita. Both of these data points are available on the OECD's Frequently Requested Health Care Data spreadsheet. We use t-tests to determine the statistical significance of our results at the 5 percent significance level.

Results

Figure 1 in the Appendix contains a table summarizing the cost sharing techniques utilized by the 28 countries in our sample in hospital care, medical care and pharmaceutical care. Figure 2 contains a table showing which countries utilize cost sharing for medical care, hospital care and pharmaceutical care to give readers easier access to the countries that make up each category. To analyze cost sharing in medical care, hospital care and pharmaceutical care, we separated our analysis in the following fashion:

We have defined medical care as a patient's interaction with a physician, whether upon first entry into the health care system (primary care), or through interaction with a specialist. In our 28-country sample, 21 nations utilize some form of cost sharing in accessing medical care, seven do not. The most recent year for which the necessary data were available from the OECD for all of the countries in our sample was 2009. In that year, those countries with no cost sharing for medical care had a mean total health expenditure of 9.9 percent of GDP, with standard deviation of 1.372 percent, and values ranging from 7.2 percent (Poland) to 11.5 percent (Denmark). For countries with cost sharing for medical care, the mean total health expenditure was 9.7 percent of GDP, with standard deviation of 1.500 percent, and values ranging from 6.9 percent (South Korea) to 11.9 percent (Netherlands). The difference in the mean percent of GDP is not statistically significant ($p=.7185$).

National health expenditures can also be compared by using OECD data for total health expenditure per capita, where spending is compared using the purchasing power parity (PPP$) method. Countries without cost sharing for medical care had a mean total health expenditure of $3,102 per capita in 2009, while countries with cost sharing for medical care had a mean total health expenditure of $3,511 per capita. That is, cost sharing seemed to be associated with larger, not reduced, spending.

However, even what appears to be a large difference is not statistically significant to the $p<.05$ level ($p=.3863$). If we look over a longer time period, we find similar results. Appendix 3 shows the mean total health expenditure as a percent of GDP for countries with and without cost sharing for medical care from 1999 through 2009. From 1999 through 2006, the mean total health expenditure as a percent of GDP for countries without cost sharing for medical care was lower than for countries with cost sharing for medical care. In the year 2000, for

example, the mean of countries without cost sharing was 7.2 percent against 8.0 percent for countries with cost sharing. However, this difference was not statistically significant at the $p<.05$ level ($p = .2303$).

Figure 4 shows the mean total health expenditure per capita breakdown from 1999 to 2009. For each of these years, the mean expenditure for countries without cost sharing for medical care was lower than the mean expenditure for countries that utilize cost sharing for medical care, each growing at a steady rate of about $160 per capita per year. Overall, there was no statistically significant difference in the mean percent of GDP spent on health care or the mean total health expenditure per capita throughout the 10-year period.

Next we took a look at hospital care, which is usually known as inpatient care and done through ambulatory care or through the emergency medicines department. Our 28-country sample breaks down evenly in terms of cost sharing for hospital care. Fourteen countries do not utilize cost sharing for hospital care, while 14 countries do utilize some degree of cost sharing for hospital care. Once again, the most recent year for which the necessary data were available from the OECD for all of the countries in our sample was 2009. In that year, those countries without cost sharing for hospital care had a mean total health expenditure of 10.0 percent of GDP, with standard deviation of 1.115 percent, and values ranging from 7.5 percent (Israel) to 11.9 percent (Netherlands). For countries with cost sharing for hospital care, the mean total health expenditure was 9.4 percent of GDP with standard deviation of 1.713 percent, and values ranging from 6.9 percent (Estonia) to 11.7 percent (France, Germany). The difference of three-fifths of a percentage point is not statistically significant ($p = .33$).

Next, we compared national health expenditures by using OECD data for total health expenditure per capita. Countries without cost sharing for hospital care had a mean total health expenditure of $3,464 per capita in 2009, while countries with cost sharing for hospital care had a mean total health expenditure of $3,354 per capita. This difference of $110 per capita is not statistically significant ($p = .80$).

Looking at the period from 1999 to 2009, we observe the same result. Figure 5 shows the mean total health expenditure as a percent of GDP breakdown from 1999 to 2009 for countries with and without cost sharing for hospital care. The mean for countries without cost sharing for hospital care was greater than the mean for countries with cost sharing for hospital care for every year from 1999 to 2009. The mean total health expenditure of countries without cost sharing for hospital care was on average about .47 percentage points higher than the mean total health expenditure for countries with cost sharing for hospital care. In that same time period, the mean total health expenditure per capita for countries without cost sharing for hospital care was always higher than the mean total health expenditure per capita for countries with cost sharing for hospital care. This difference was least in 2003 when it was only $20 per capita and greatest in 2008 when it was $131 per capita.

Figure 6 in the Appendix shows the mean total health expenditure per capita breakdown from 1999 to 2009 for countries with and without cost sharing for hospital care. During the 10-year

period from 1999 to 2009, the mean total health expenditure per capita for countries without cost sharing for hospital care was always higher than the mean total health expenditure per capita for countries with cost sharing for hospital care. This difference was the smallest in 2003 when it was only $20 per capita and greatest in 2008 when it was $131 per capita. None of these differences were significant at the 5 percent level, however. In fact, there was no statistically significant difference in the mean percent of GDP spent on health care or the mean total health expenditure per capita, through the entire 10-year period.

Next, we looked at differences between countries without cost sharing for both medical care and hospital care and those with cost sharing for one or the other. Six countries in our sample — Canada, Denmark, Greece, Slovakia, Spain and the United Kingdom — do not utilize any cost sharing for both medical care and hospital care. First, we looked at total health expenditure as a percentage of GDP. From 1999 to 2005, countries without cost sharing for medical care and hospital care spent less on average than countries with cost sharing for medical care or hospital care. The average health expenditure as a percentage of GDP for countries without cost sharing for medical care and hospital care in 2002, for example, was 8.1 percent, while the average health expenditure for countries with cost sharing for medical care or hospital care was 8.4 percent. In 2005, the trend reversed, and countries without cost sharing for medical care and hospital care began to spend more on average than countries with cost sharing for medical care or hospital care. However, none of these differences were statistically significant at the 5 percent level. Figure 8 in the Appendix shows t-test results for each year, with p-values ranging from $p=0.150$ in 2009 to $p=0.965$ in 1999.

Next, we analyzed health expenditure per capita for these two groups. Figure 9 in the Appendix shows the annual breakdown of the mean of countries without cost sharing for both medical care and hospital care and countries with cost sharing for medical care or hospital care. The mean total health expenditure per capita for countries without cost sharing for medical care and hospital care was always lower than the mean total health expenditure per capita for countries with cost sharing for medical care or hospital care. This difference was least in 2009 at $21.60 per capita and greatest in 2000 at $306.30 per capita. Figure 8 in the Appendix shows t-test results for each year, with p-values ranging from $p=0.394$ in 2009 to $p=0.961$ in 2009. None of these differences were significant at the 5 percent level.

Finally, we took a look at cost sharing in pharmaceutical care. All of the 28 countries in our sample utilized some form of cost sharing for pharmaceutical care, which means we are unable to test if cost sharing has a statistically significant impact on total health expenditure. We were able to break down our sample into four groups by type of pharmaceutical cost sharing. Figure 10 in the Appendix contains this breakdown by country category. The four categories were copayments, coinsurance, reimbursement or a combination of two or more of these techniques. We used 2007 as the base year for our calculations because this was the only year where most of the data was available for our countries. The only country without pharmaceutical care data in 2007 was Israel. Seven countries from our sample utilized copayments as a means of cost sharing for pharmaceutical care, 12 for coinsurance, five for reimbursement and four for combination of techniques.

Figure 11 in the Appendix contains t-test results for comparisons between each of these categories. Comparisons between each cost-sharing category of pharmaceutical care in 2007 revealed no significant differences between groups. P-values ranged from p=.269 (coinsurance and reimbursement) to p=.918 (coinsurance and combination) for total pharmaceutical expenditure as a percentage of total health expenditure, and from p=.077 (coinsurance and combination) to p=.630 (coinsurance and reimbursement) for pharmaceutical expenditure per capita. Insufficient data on pharmaceutical expenditure does not allow for additional analysis over a longer period of time.

Next, we tested for statistically significant differences in health utilization between countries that utilize cost sharing and countries that do not. While the first part of our research used health care expenditure for cost sharing in both medical care and hospital care, here we will use different metrics for each type of care. Using the OECD's Frequently Requested Health Data 2012, we use the variable *doctor consultations per capita* to investigate the impact of medical care cost sharing on health utilization. To investigate the impact of hospital care cost sharing on health utilization, we use the variables *average length of hospital stay for all causes* and *hospital discharge rate per 100,000 population* to create the variable *total hospital days per 100,000 population* by multiplying the two previous variables. This variable is the total amount of days spent in a hospital per 100,000 individuals.

Due to limited data, we only investigated the impact of medical care cost sharing on health utilization from 2005 to 2009. Our original breakdown included six countries without cost sharing for medical care: Canada, Denmark, Greece, Poland, Slovakia, Spain and the United Kingdom. Figure 12 in the Appendix shows the average number of doctor consultations per capita for countries with and without cost sharing from 2005 to 2009. In 2009, the average number of doctor consultations per capita was 6.78, ranging from 4.6 doctor consultations per capita in Denmark to 11.3 doctor consultations per capita in Slovakia. In that same year, the average number of doctor consultations per capita for countries with cost sharing for medical care was 6.88, ranging from 2.9 doctor consultations per capita in Sweden to 13.1 doctor consultations per capita in Japan. This difference of 0.094 doctor consultations per capita is not statistically significant (p=0.940). The difference in mean doctor consultations per capita was greatest in 2006 when it was 1.21 doctor consultations per capita. However, even this difference was not statistically significant (p=0.435). In fact, the difference in health utilization between countries with cost sharing for medical care and countries without cost sharing for medical care was not statistically significant during any year from 2005 to 2009, suggesting that the impact of cost sharing on medical care utilization is minimal.

That is not the case when we evaluate the impact of cost sharing on total hospital days per 100,000 individuals. As mentioned before, this variable describes the total number of days spent in a hospital per 100,000 individuals, formed by multiplying the variables *average length of hospital stay for all causes* and *hospital discharge rate per 100,000 population.* Once again due to limited data, we focus on the years 2005 to 2009. Our original breakdown features 14 countries that utilize cost sharing for hospital care and 14 countries that do not. In the year 2005, for example, the mean hospital utilization per 100,000 individuals was

95,982 hospital days for countries without cost sharing for hospital care. For countries with cost sharing for hospital care, this number was 156,208, a difference of over 60,000 hospital days per 100,000 individuals. A t-test was conducted and revealed that this difference is statistically significant at the 5 percent level ($p=.0001$). Figure 13 in the Appendix contains the graph of average hospital utilization per year for both country categories. While some countries needed to be omitted from calculations because of gaps in data (Czech Republic, Greece, Japan and South Korea), the results are still consistent year to year. T-tests were conducted for each of these years, and each revealed statistically significant differences (at the 5 percent, and even the 1 percent, level) in hospital utilization between countries with and without cost sharing for hospital care.

Conclusion

Our findings show that there are no statistically significant differences in total health expenditure for countries with and without cost sharing for both medical care and hospital care. We also find that while there are no statistically significant differences in health utilization between countries with and without cost sharing for medical care, there are statistically significant differences in health utilization between countries with and without cost sharing for hospital care. We attribute this to the fact that in the short term, increased levels of cost sharing may prevent consumers from accessing the health care they need. Consumers have the ability to hold off on these visits in the short run if they are deemed too expensive, but in the long run individuals will be forced to access the care they need. The costs of accessing such care will skyrocket as individuals put off more and more visits due to the high levels of cost sharing. We theorize that cost sharing de-emphasizes preventative care, and thus the focus on immediate care causes health care costs to rise. The primary purpose of cost sharing is to discourage the use of unnecessary health services and promote the use of cost-effective care. However, our research finds that cost-sharing utilization does not have a statistically significant impact on health care expenditure. Lawmakers must acknowledge these delicate intricacies of cost sharing. We suggest limiting its use, if even using it at all.

Appendix

Figure 1. Cost Sharing Breakdown by Country

Cost-Sharing in National Health Programs

	Medical Care	Hospital Care	Pharmaceuticals
Australia, 2006	100% reimbursement for most GP visits; between 75% and 85% reimbursement for specialist visits (Healy, 94)	No cost sharing (Healy, 94)	Copayment of AU $28.60 ($30) per prescription for non-card holders; copayment of AU $4.60 ($5) for card holders (Healy, 40)
Austria, 2006	14%-20% co-insurance (Hofmarcher, 95)	Copayment between $10-12 per day (Hofmarcher, 93)	Copayment of $5 per prescription (Hofmarcher, 94)
Belgium, 2010	25% coinsurance for GP consultations; 40% coinsurance for specialist consultations; reduced coinsurance rates of 10% for GP visits and 15% for specialist visits for preferential reimbursement rate beneficiaries (Gerkens, 95-96)	Flat copayment per day, plus a €.62 ($0.80) charge per day for inpatient pharmaceuticals and a €7.44 ($9.60) charge per day for biological tests (Gerkens, 97-98)	No cost sharing for "vital drugs"; copayment rates between 25% and 100% for all other outpatient pharmaceuticals depending on therapeutic significance (Gerkens, 97)
Canada, 2005	No cost sharing (Marchildon; 49, 93)	No cost sharing (Marchildon; 49, 93)	No cost sharing for prescription drugs provided in hospital settings; each province
Czech Republic, 2009	Copayment of CZK 30 ($1.55) per doctor visit with an annual price ceiling of CZK 5000 ($258) (Bryndova, 40-41)	Copayment of CZK 60 ($3.10) per day with an annual price ceiling of CZK 5000 ($258 (Bryndova, 40-41)	Copayment of CZK 30 ($1.55) for prescription drugs; if the actual price exceeds the reference price, the patient must pay the price difference or CZK 30, whichever is greater (Bryndova, 40)
Denmark, 2012	No cost sharing (Olejaz, 47)	No cost sharing, except for fertilization treatment, sterilization and refertilization (Olejaz, 70)	100% reimbursement for inpatient pharmaceuticals; up to 85% reimbursement for other pharmaceuticals depending on the patient's yearly drug costs (Olejaz, 68)

	Medical Care	Hospital Care	Pharmaceuticals
Estonia, 2008	No cost sharing for GP visit; copayment for specialist visits according to provider-established price list (Koppel, 69)	Copayment of up to €1.60 per day for up to 10 days (Koppel, 69)	Copayment of €1.30 ($1.69) per prescription medicine for chronic diseases, plus coinsurance at either 0% or 25%; copayment of €3.20 ($4.15) per general prescription, plus coinsurance of at least 50% where HI will not reimburse more than €12 ($15.56) per prescription (Koppel, 69)
Finland, 2008	Up to €11 ($14) per visit for the first three visits each year, no charge for further visits (Vuorenkoski, 63)	Maximum daily charge of €26 ($34) for inpatient hospital care with a maximum charge of €72 ($93) per visit; maximum of 80% of patient's monthly income can be charged for long-term hospital care (Vuorenkoski, 63)	Three levels of reimbursement through NHI: 42% (limited or nonlimited basic reimbursement category), 72% (limited lower special reimbursement category) and 100% (limited higher special reimbursement category) (Vuorenkoski, 54)
France, 2010	Copayment of $1.39 per visit (yearly ceiling of $61); 30% coinsurance for outpatient services (Chevreul, 60)	Mandatory out-of-pocket payment of €18 ($25) per day plus 20% coinsurance for hospital services (Chevreul, 60)	0% coinsurance for highly effective drugs, 40%–70% coinsurance for all other pharmaceuticals (Chevreul, 60)
Germany, 2004	Copayment of between €5 and €10 ($6 - $13) per visit; yearly price ceiling of 2% of total income can be spent on copayments (Busse, 75–76)	Copayment of €10 ($13) per day limited to 28 days per year; yearly price ceiling of 2% of total income can be spent on copayments (Busse; 76, 166)	Co-payment between €5 ($6) and €10 ($12); yearly price ceiling of 2% of total income can be spent on copayments (Busse, 76)
Greece, 2010	No cost sharing for visits to physicians and diagnostic centers contracted by social insurance funds (Economou, 58)	No cost sharing (Economou, 58)	Coinsurance of either 10% or 25% depending on income for over-the-counter drugs; Social insurance reimburses all purchases of prescription-only medicine (Economou, 58)
Iceland, 2003	Copayment between ISK 600–700 ($4.85–$5.67) for a GP consultation; copayment of ISK 2,100 ($17) plus 40% coinsurance for the remaining cost with a maximum out-of-pocket payment of ISK 18,000 ($145) for specialist visits (Halldorsson; 29, 31)	No cost sharing (Halldorsson, 29)	No cost sharing for "essential" pharmaceuticals; flat fee plus a fixed percentage of the remaining costs for all other pharmaceuticals depending on therapeutic value; in 2002 (Halldorsson, 66)

	Medical Care	Hospital Care	Pharmaceuticals
Ireland, 2009	No cost sharing for those with Medical Cards; 100% coinsurance for non-card holders (McDaid, 66)	Copayment of €66 ($84) per day with maximum ceiling of €660 ($843) per year (McDaid, 86)	No cost sharing for those with Medical Cards; 100% coinsurance for non-card holders, with a monthly price ceiling of €90 ($110) (McDaid, 86)
Israel, 2009	No cost sharing for primary care visits in 3 out of 4 of the health plans, while the Maccabi health plan charges a small copayment; small copayments required for specialist visits (Rosen; 50, 113)	No cost sharing (Rosen, 35)	15% coinsurance for prescribed pharmaceuticals in 3 out of 4 of the health plans, with a minimum copayment of NIS 13 ($3) (Rosen, 51)
Italy, 2009	No cost sharing for primary care visits; copayment of €36.15 ($47) for specialist visits (Lo Scalzo, 55)	No cost sharing (Lo Scalzo, 55)	Group A pharmaceuticals for severe and chronic illness are fully reimbursed by the SSN; those in Group C are not reimbursed by the SSN; those in Group H are drugs only provided by hospitals free-of-charge (Lo Scalzo, 124)
Japan, 2009	30% coinsurance with the exception of the elderly, the very poor and children (Tatara, 64)	30% coinsurance with the exception of the elderly, the very poor and children; monthly price ceiling of $1,056 for low-income patients or $1,978 for high-income patients (Tatara, 64)	30% coinsurance for pharmaceuticals on the positive list (Tatara, 64)
Luxembourg, 1999	5% coinsurance for first visit made by a patient to a GP or specialist in any 28 days; Additional visits require no cost sharing (Kerr, 19)	Copayment of LUF 219 ($7) per day (Kerr, 19)	Most drugs require 20% coinsurance, but drugs used for the treatment of long-term or serious illnesses are reimbursed at 100% of total price; drugs for "comfort purposes" require 60% coinsurance (Kerr, 19)
Netherlands, 2010	No cost sharing for GP visits; compulsory deductible of €155 ($200) for specialist visits (Schäfer; 65, 77)	No cost sharing for short-term hospital care; for long-term care, the patient pays either 12.5% of income (first 6 months of care) or 8.5% of income (after 6 months) with a price ceiling of €727.60 ($929) per month (Schäfer, 78)	No cost sharing for pharmaceuticals in GVS; There are groups of therapeutic equivalents, each with a reimbursement limit (Schäfer, 158)

	Medical Care	Hospital Care	Pharmaceuticals
New Zealand, 2001	Subsidy of NZ $32.50 ($27) for children under 6 years old and NZ $15 ($12) for adult concession cardholders to cover consultation fee for GP and specialist visits (French, 59)	No cost sharing (French, 58)	Maximum copayment of NZ $15 ($12) per pharmaceuticals on the Pharmaceutical Schedule; reduced copayment of NZ $3 ($2) for the poor with concession cards (French, 58)
Norway, 2006	Copayment of NKr 125 ($22) for a physician consultation; copayment of NKr 265 ($46) for a specialist visit; copayment limit of NKr 1615 ($280) per year for both medical care and pharmaceuticals (Johnsen; 46, 145)	No cost sharing (Johnsen, 44)	Non-prescription pharmaceuticals have 100% coinsurance; prescription pharmaceuticals in the White class have 100% coinsurance; prescription pharmaceuticals in the Blue class receive subsidies from the NIS (Johnsen, 54)
Poland, 2011	No cost sharing, but a referral is needed to access specialist care (Sagan; 45, 126)	Copayment between PLN 6.50 ($2) and PLN 23.30 ($7) per day (Kuszewski, 32)	Copayment of PNL 4.25 ($1.34) per basic drug or PLN 12.74 ($4) per magistral formulae; 30% or 50% coinsurance for supplementary medicines provided on the basis of prescriptions (Sagan, 79)
Portugal, 2011	Small copayments required for GP visits when compared to the cost of service; for example €8.75 ($11.33) for a department case with the highest technology level in central hospitals; specialist consultations are more commonly provided in the private sector (Barros; 30, 63)	No cost sharing (Barros, 63)	Coinsurance of 10% for drugs in Category A, those essential for life maintenance; 31% coinsurance for those in catgeory B; 73% for those in Category C; and 95% for those in Category D (Barros, 107)
Slovakia, 2011	No cost sharing (Szalay, 105)	No cost sharing (Szalay, 77)	No cost sharing for ATCg groups of essential pharmaceuticals; no cost sharing for about one-third of pharmaceuticals on the positive list; user fee of €.17 per prescription in addition to copayments resulting from the reference pricing system (Szalay; 70, 77)
South Korea, 2009	30% coinsurance for physician and specialist services (Chun, 125)	20% coinsurance for inpatient services; 60% coinsurance for treatment in tertiary hospitals; 50% coinsurance for treatment in general urban hospitals; 45% coinsurance for treatment in general rural hospitals (Chun, 59-60)	20% coinsurance for pharmaceuticals from drug dispensaries within hospitals; 30% coinsurance for pharmaceuticals for inpatient treatment (Chun; 60, 121)

	Medical Care	Hospital Care	Pharmaceuticals
Spain, 2010	No cost sharing (García-Armesto, 91)	No cost sharing (García- Armesto, 91)	40% coinsurance for non- inpatient pharmaceuticals for people under the age of 65 (García-Armesto, 91)
Sweden, 2012	Copayment between SEK 100 and SEK 200 ($14.25 and $28.49 respectively) for physician visits; copayment between SEK 230 and SEK 320 ($32.38 and $45.33 respectively) for specialist visits; yearly out-of-pocket ceiling of SEK 1100 ($158) excluding pharmaceuticals (Anell, 62-63)	Copayment of SEK 80 ($11.66) per day (Anell, 63)	100% coinsurance; yearly price ceiling of SEK 1,100 ($158) after which there are various coinsurance levels between 10% and 50% (Anell, 64)
Switzerland, 2000	Standard annual deductible of Sw.fr. 230 ($245); 10% coinsurance on all expenses after the deductible has been met; upper limit for coinsurance of Sw.fr.600 ($640) (Minder, 31)	Copayment of Sw.fr 10 ($11) per day for single people without children (Minder, 32)	Standard annual deductible of Sw.fr. 230 ($245); 10% coinsurance on all expenses after the deductible has been met; upper limit for coinsurance of Sw.fr.600 ($640); 20% coinsurance for brand name drugs if a similar generic drug exists (Minder, 31)
United Kingdom, 2011	No cost sharing (Boyle, 21)	No cost sharing (Boyle, 21)	Copayment of $9 per pharmaceutical; widespread exemptions account for 94% of all prescription drugs being dispensed for free; $127 pre-paid certificate for yearly unlimited number of pharmaceuticals (Boyle, 100)

Figure 2. Cost Sharing Breakdown by Country

Country	Medical Care	Hospital Care	Pharmaceutical Care
Australia	✓		copayment
Austria	✓	✓	copayment
Belgium	✓	✓	coinsurance
Canada			reimbursement
Czech Republic	✓	✓	copayment
Denmark			reimbursement
Estonia	✓*	✓	copayment, coinsurance
Finland	✓	✓	reimbursement
France	✓	✓	coinsurance
Germany	✓	✓	copayment
Greece			coinsurance
Iceland	✓		copayment, coinsurance
Ireland	✓	✓	coinsurance
Israel	✓*		coinsurance
Italy	✓*		reimbursement
Japan	✓	✓	coinsurance
Luxembourg	✓	✓	coinsurance
Netherlands	✓*		reimbursement
New Zealand	✓		copayment
Norway	✓		coinsurance
Poland		✓	copayment, coinsurance
Portugal	✓		coinsurance
Slovakia			copayment
South Korea	✓	✓	coinsurance
Spain			coinsurance
Sweden	✓	✓	coinsurance
Switzerland	✓	✓	deductible, coinsurance
United Kingdom			copayment

*No cost sharing for GP visits; cost sharing for specialist visits

Figure 3.

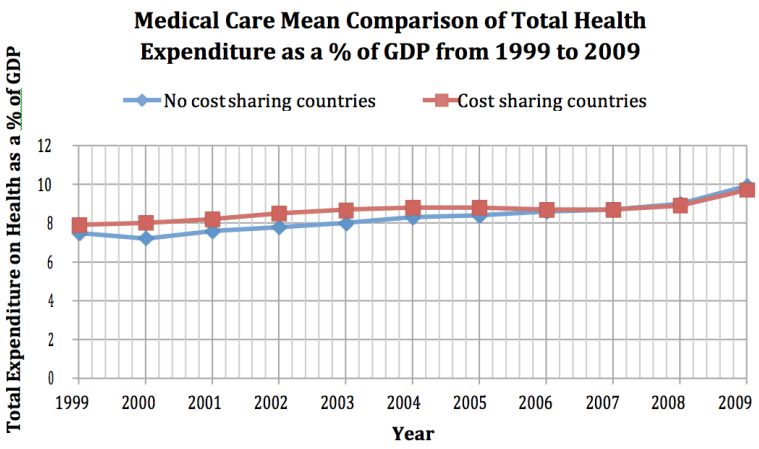


Figure 4.

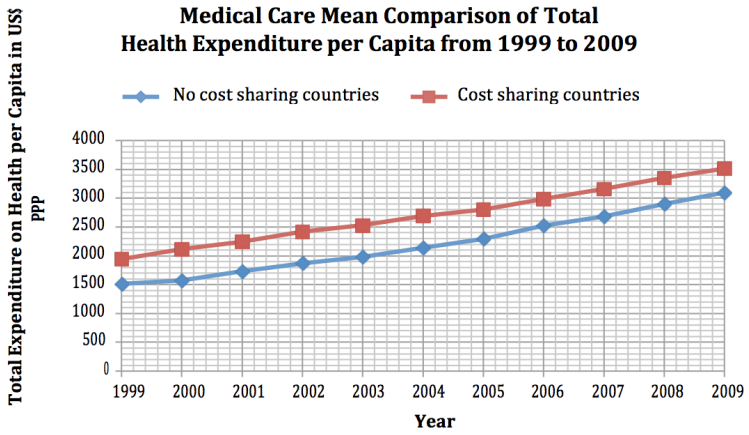


Figure 5.

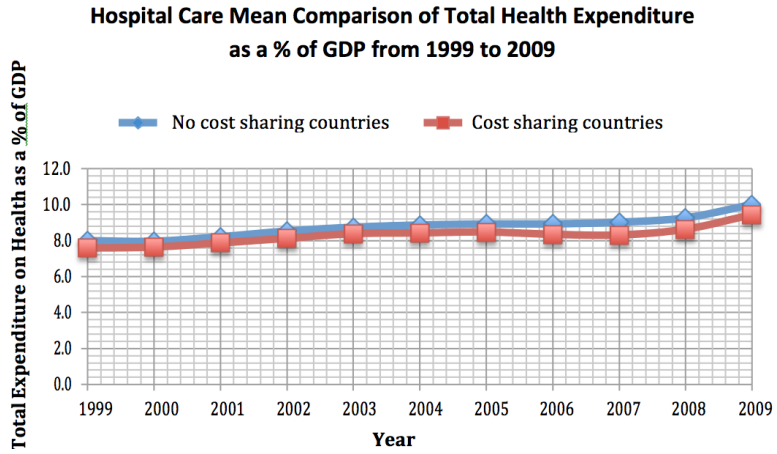


Figure 6.

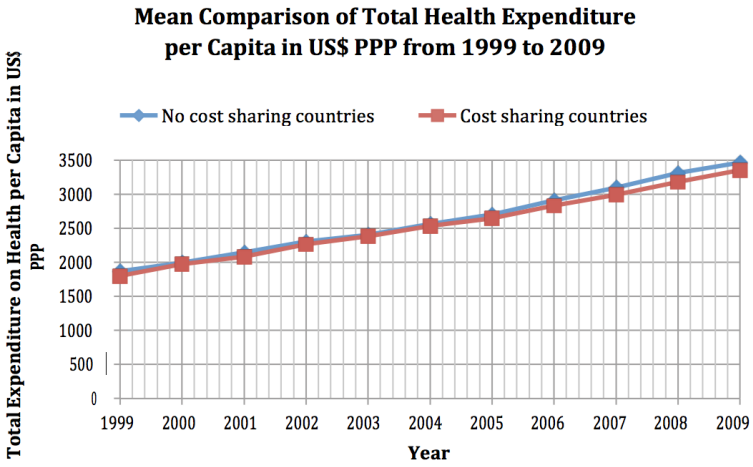


Figure 7.

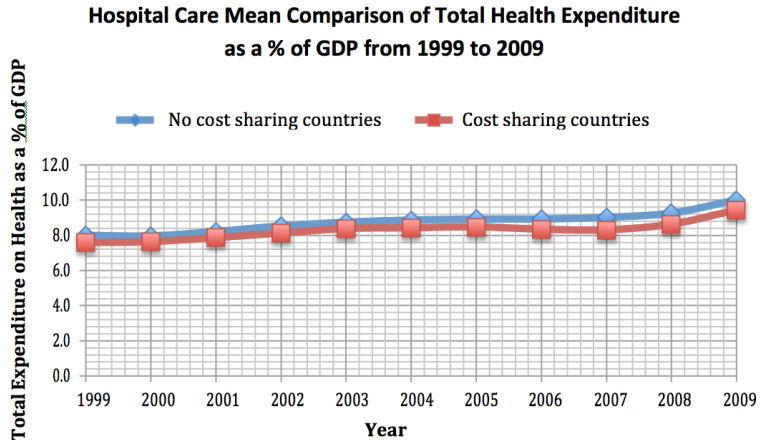


Figure 8. T-test Results for Medical and Hospital Care Combined Analysis

Year	Total Health Expenditure, % of GDP	Total Health Expenditure, per capita
1999	p = 0.965	p = 0.530
2000	p = 0.589	p = 0.394
2001	p = 0.778	p = 0.487
2002	p = 0.700	p = 0.474
2003	p = 0.709	p = 0.508
2004	p = 0.947	p = 0.542
2005	p = 0.835	p = 0.646
2006	p = 0.470	p = 0.802
2007	p = 0.309	p = 0.783
2008	p = 0.298	p = 0.819
2009	p = 0.150	p = 0.961

Figure 9.

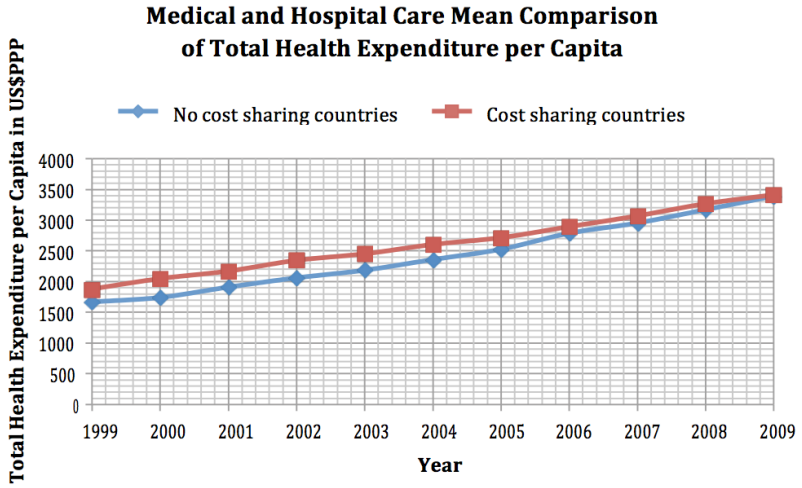


Figure 10. Country Breakdown of Cost Sharing for Pharmaceutical Care

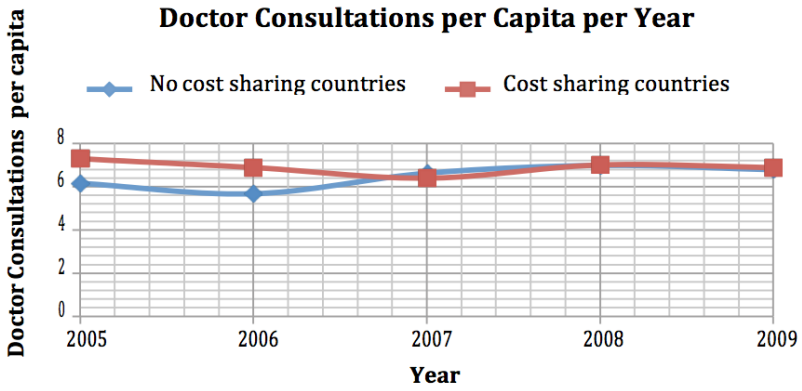
Copayment	Coinsurance*	Reimbursement	Combination
Australia	Belgium	Canada	Estonia
Austria	France	Denmark	Iceland
Czech Republic	Greece	Finland	Poland
Germany	Ireland	Italy	Switzerland
New Zealand	Japan	Netherlands	
Slovakia	Luxembourg		
United Kingdom	Norway		
	Portugal		
	South Korea		
	Spain		
	Sweden		

*Israel omitted from calculations because it did not publish its pharmaceutical care spending, but it utilizes coinsurance for pharmaceutical care cost sharing

Figure 11. T-test Results for Pharmaceutical Care Analysis

Group	Total Health Expenditure, % of GDP	Total Health Expenditure, per capita
Copayment, coinsurance	p = 0.793	p = 0.099
Copayment, reimbursement	p = 0.477	p = 0.446
Copayment, combination	p = 0.785	p = 0.391
Coinsurance, reimbursement	p = 0.269	p = 0.630
Coinsurance, combination	p = 0.918	p = 0.077
Reimbursement, combination	p = 0.419	p = 0.185

Figure 12.



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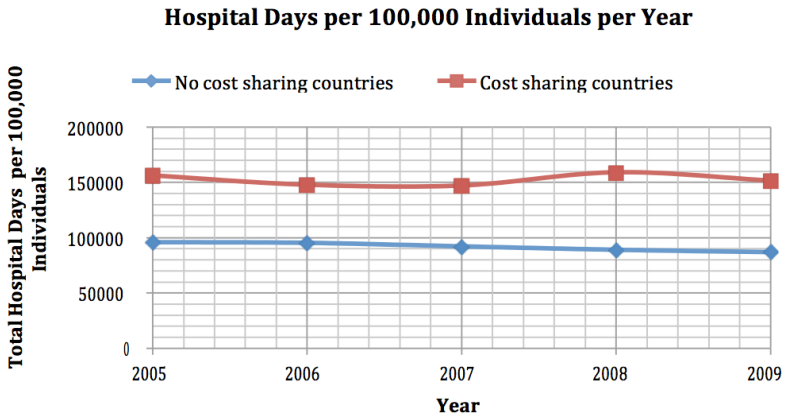

References

Anell, A, A.H. Glenngård, and S. Merkur. 2012. "Sweden: Health system review." *Health Systems in Transition* 14, no. 5: 1–159.

Barros, P., S. Machado, and J. Simões. 2011. "Portugal: Health system review." *Health Systems in Transition* 13, no. 4: 1–156.

Boyle, Seán. 2011. "United Kingdom (England): Health system review." *Health Systems in Transition* 13, no. 1: 1–486.

Bryndová, L., K. Pavloková, T. Roubal, M. Rokosová, M. Gaskins, and E. van Ginneken. 2009. "CzechRepublic: Health system review." *Health Systems in Transition* 11, no. 1: 1–122.

Busse, R., and A. Riesberg. 2004. *Health Care Systems in Transition: Germany*. Copenhagen: World Health Organization.

Chevreul, K., I. Durand-Zaleski, S. Bahrami, C. Hernández-Quevedo, and P. Mladovsky. 2010. "France: Health system review." *Health Systems in Transition* 12, no. 6: 1–291.

Chun, C-B, S-Y Kim, J-Y Lee, and S-Y Lee. 2009. "Republic of Korea: Health system review." *Health Systems in Transition* 11, no. 7: 1–184.

Economou, C. 2010. "Greece: Health system review." *Health Systems in Transition* 12, no. 7: 1–180.

French, S., A. Old, and J. Healy. 2001. *Health Care Systems in Transition: New Zealand.* Copenhagen: World Health Organization.

Gaál, P., S. Szigeti, M. Csere, M. Gaskins, and D. Panteli. 2011. "Hungary: Health system review." *Health Systems in Transition* 13, no. 5: 1–266.

García-Armesto, S., M.B. Abadía-Taira, A. Durán, C. Hernández-Quevedo, and E. Bernal-Delgado. 2010. "Spain: Health system review." *Health Systems in Transition 12*, no. 4: 1–295.

Gerkens, S., and S. Merkur. 2010. "Belgium: Health system review." *Health Systems in Transition* 12, no. 5: 1–266.

Halldorsson, M. 2003. *Health Care Systems in Transition: Iceland.* Copenhagen: World Health Organization.

Healy, J., E. Sharman, and B. Lokuge. 2006. "Australia: Health system review." *Health Systems in Transition* 8, no. 5: 1–158.

Hofmarcher, M.M., and H-M Rack. 2006. "Austria: Health system review." *Health Systems in Transition* 8, no. 3: 1–247.

Johnsen, J.R. 2006. *Health Systems in Transition: Norway*. Copenhagen: World Health Organization.

Koppel, A., K. Kahur, T. Habicht, P. Saar, J. Habicht, and E. van Ginneken. 2008. "Estonia: Health system review." *Health Systems in Transition* 10, no. 1: 1–230.

Lo Scalzo, A., A. Donatini, L. Orzella, A. Cicchetti, S. Profili, and A. Maresso. 2009. "Italy: Health system review." *Health Systems in Transition* 11, no. 6: 1–216.

Lundy, Janet, and Benjamin D. Finder. 2009. "Cost Sharing for Health Care: France, Germany, and Switzerland." Kaiser Family Foundation. http://kaiserfamilyfoundation.files.wordpress.com/2013/01/7852.pdf.

Marchildon, G.P. 2005. *Health Systems in Transition: Canada*. Copenhagen, World Health Organization.

McDaid, D., M. Wiley, A. Maresso, and E. Mossialos. 2009. "Ireland: Health system review." *Health Systems in Transition* 11, no. 4: 1–268.

Minder, A., H. Schoenholzer, and M. Amiet. 2000. *Health care systems in transition: Switzerland.* Copenhagen, World Health Organization.

Mossialos, E. 1999. *Health Systems in Transition: Luxembourg*. Copenhagen, World Health Organization.

Olejaz, M., A. Juul Nielsen, A. Rudkjøbing, H. Okkels Birk, A. Krasnik, and C. Hernández-Quevedo. 2012. "Denmark: Health system review." *Health Systems in Transition* 14, no. 2: 1–192.

Rosen, B., and S. Merkur. 2009. "Israel: Health system review." *Health Systems in Transition* 11, no. 2: 1–226.

Sagan, A. 2011. "Poland: Health system review." *Health Systems in Transition* 13, no. 8:1–193.

Schäfer, W., M. Kroneman, W. Boerma, M. van den Berg, G. Westert, W. Devillé, and E. van Ginneken. 2010. "The Netherlands: Health system review." *Health Systems in Transition* 12, no. 1: 1–229.

Swartz, K. 2010. "Cost-sharing: Effects on spending and outcomes." The Synthesis Project. http://www.rwjf.org/content/dam/farm/reports/issue_briefs/2010/rwjf402103/subassets/rwjf402103_1.

Szalay, T., P. Pažitný, A. Szalayová, S. Frisová, K. Morvay, M. Petrovič, and E. van Ginneken. 2011. "Slovakia: Health system review." *Health Systems in Transition* 13, no. 2: 1–200.

Tatara, K., and E. Okamoto. 2009. "Japan: Health system review." *Health Systems in Transition* 11, no. 5: 1–164.

US Department of Health and Human Services' Agency for Healthcare Research and Quality Archive. "Cost-Sharing Definition." http://archive.ahrq.gov/chip/text/content/cost_sharing/cost_sharing.htm.

Vuorenkoski, L., P. Mladovsky, and E. Mossialos. 2008. "Finland: Health system review." *Health Systems in Transition* 10, no. 4: 1–168.

Increasing Competition and Transparency in the Medical Marketplace to Reduce Inefficient Spending and Costs

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Introduction

This paper is composed of policy proposals that address the issues of cost, quality and accessibility of health care in America. After a thorough literature analysis, we have developed a six-point proposal to best address what we believe are the biggest downfalls of the current health care system. The proposed United States Healthcare Provider is a government-owned insurance company that would provide more competition in the insurance marketplace by providing low-income and unemployed citizens a cheaper option for health insurance and offering higher income customers lower premiums than USHP's competitors. The proposed National Commission for Superior Well-being is a government agency that conducts cost-effective analyses on medical products and services that would be used primarily by the USHP to maximize the efficiency in coverage of health plans. A law increasing price transparency would promote uniformity and reduction of inflated prices charged to patients, regardless of health care provider. These issues are currently attributed to the chargemaster system. A national electronic medical records database maintained and hosted by the government would increase efficiency in the exchange of patient information, increase accessibility and provide a uniform format that would result in a more efficient electronic medical records system. Screening panels for all malpractice lawsuits would reduce nonmeritorious malpractice lawsuits; price caps for lawsuit payouts would reduce malpractice insurance premiums for physicians; and establishing a panel of medical consultants in medical malpractice litigation would define the standard of care, reducing the effects of defensive medicine. Lastly, an increase in the number of generalists in the U.S. would produce a greater emphasis on cost-efficient preventative care and lessen the emphasis on expensive fixative care.

Overview

Current health care policies have been aimed at reducing the number of Americans that are uninsured or underinsured. Specifically, the Patient Protection and Affordable Care Act was passed in hopes of aiding citizens with pre-existing medical conditions who are not able to obtain health insurance, as well as citizens of lower income who might not be able to afford health insurance. Many of the policies of the PPACA utilized several solutions to address these problems: guaranteed issue to prohibit health insurance companies from discriminating based on pre-existing conditions, an individual mandate to require all individuals to have some level of health insurance, and an optional expansion of the Medicaid program at the state level to provide lower income citizens with health care.[1]

While the PPACA aims to increase medical care coverage, it does little to address issues of cost and quality of the health care Americans receive. A breakdown of the health market will show that Americans pay some of the highest bills for medical treatments. This issue is completely ignored by recent government policies. There is little cost regulation, leading to the commissioning of highly cost-ineffective health products and services. Additionally, the health marketplace is plagued by the absence of price transparency, which ultimately drives up costs for the consumer and the health care providers that cover their bills. Medical consultations lack coordination in information exchange for patient care. Lastly, our medical system has fallen into the trend of practicing fixative care, rather than the more cost-effective preventative care. Together, these issues perpetuate high costs and low quality in the face of recent policy changes.

The policies proposed in this paper take into consideration the changing dynamic of the health care system in the United States and complement policies, including the PPACA, that are already in place. Each proposal works individually and collectively to achieve these goals of increasing access and quality while reducing the cost of health care.

U.S. Health Care Provider

Opponents of the PPACA argue the unviability of the program, as these measures would greatly increase the cost of private health insurance.[2] This would create a financial burden that the government cannot afford, which would only be exacerbated by proposed expanded Medicaid programs as well as subsidies to lower income citizens. However, in order to accommodate all of the changes set in place by the PPACA, insurance companies have stated that they will have to raise premiums and reduce coverage for all Americans.[3]

Our first proposal is for the government to establish the United States Healthcare Provider, a public health insurance agency. This government-owned insurance company would be run by the commissioner of the USHP. This commissioner would be appointed by the president with the advice and consent of the Senate, and would report to the secretary of Health and Human Services. This management structure is modeled off alternative administrations under the Department of Health and Human Services, such as the Food and Drug Administration. The USHP would run on its own revenue and would offer multiple levels of coverage (plans) tailored to fit the diversity seen in health insurance plans. Each plan would cover a particular set of tests, drugs and treatments. Higher level plans would be more expensive, but cover more drugs and treatments, and have smaller deductibles, copayment and coinsurance. Income would be used as one of the factors to determine premium price for each level of coverage for citizens below 400 percent of the poverty level. This would allow lower income or unemployed customers who may not be able to afford private insurance plans a cheaper option tailored to their needs and context, while still providing higher income customers with premiums lower than those of USHP's competitors. The USHP would also be able to provide incentives and discounts if customers could demonstrate they are taking preventative measures (nutrition, treatments, regular checkups, etc.) to reduce the risk of incurring larger medical expenses.

There are several advantages to establishing a nonprofit public health insurance system; the most prominent being the ability to undercut the prices of private health insurance companies with a potential cost reduction between 5 percent and 7 percent.[4] In 2012, for example, UnitedHealth Group, the largest health insurance company in the U.S., had revenue of $111 billion, with a profit of $5.53 billion.[5] A government health insurance option would not have to run on profit like private competitors; thus, savings would be translated to lower premiums for equivalent customer coverage. Furthermore, the USHP would have more flexibility to grow and have a lower overhead cost since government employees have inherently lower salaries compared with their private sector counterparts.[6,7]

Lower prices would not only provide Americans with a more affordable option for health insurance, but would also add national competition to the health insurance marketplace. This would force profit margins down, leading health insurance companies in the private sector to offer lower premiums, pressured by the risk of losing clients to cheaper competitors.[8]

Economists have proven that in a price discrimination model output must increase in order for total social welfare to increase.[9,10] The USHP would be enacting price discrimination on its product by using salary as a factor when determining an individual's premium. Therefore, more people would buy health insurance from the USHP, as the prices would adapt according to how much they are able to pay. Third-degree price discrimination, as described, would raise the output of customers with lower income while still maintaining output from customers with higher income.[11] This would have the twofold benefit of leading to higher social welfare while providing a larger population to dissipate the financial burden of high-risk pools.[12]

Catastrophe bonds (CAT bonds) are debt-linked securities that aid in transferring risk to investors.[13] CAT bonds are often issued by property or life insurance companies as a way of quickly raising capital in the event of a catastrophic event such as a hurricane or flood. This in turn reduces the risk of default by the insurance company.[14] In 2010, Aetna Inc. was the first health insurance company to issue CAT bonds.[15] Aetna issued $200 million of bonds through Goldman Sachs. As an added measure to reduce the risk associated with providing health insurance to a large number of people, the USHP could issue CAT bonds and transfer most of the risk to investors who choose to purchase the bonds. This would serve as an effective method of risk management. Aetna's bonds received a rating of BBB- by Standard & Poor's 500 index, indicating a low-grade investment. The USHP would be backed by the United States government in extreme circumstances, ensuring it would receive the AA+ credit rating that the United States treasury currently holds.[16] Investors look at these ratings to determine the reliability of investments in bonds. This means that investors would be much more inclined to purchase USHP CAT bonds, which increases the amount of risk it would be able to transfer to investors.

National Commission for Superior Well-being

Our second proposal is to establish the National Commission for Superior Well-being, an organization similar to the U.K.'s National Institute of Health and Care Excellence.[17,18] The

NCSW would be an additional operational division of the Department of Health and Human Services. The NCSW would be led by a director appointed by and held accountable to the secretary of Health and Human Services. This agency would also be subject to evaluation by both leaders in the Department of Health and Human Services as well as the U.S. Government Accountability Office.[19] The NCSW would not be endorsed or financially supported by any other institution other than the U.S. government in order to prevent influence from lobbyist groups. The purpose of the NCSW would be for a government institution to conduct unbiased cost-effective analysis on the medical marketplace. Its primary use would be for the USHP to determine which drugs and treatments would be covered under each level in order to maximize the efficiency of expenditure in terms of providing health care to its customers. However, these reports would be made public, and any other institution, including other private insurance companies, would be able to use its data to optimize the coverage of drugs and treatments to its customers. In this way, the results produced would benefit all citizens in the U.S., not just those who have the government health insurance option. The NCSW would also work with manufacturers to normalize costs of services and drugs. Those charging higher prices for similar products would be deemed less cost-effective and might not be covered by all health insurances. This would again cut profit margins by increasing transparency in pricing of medical goods and services, thus reducing the cost of health care in America.

The NCSW would work in conjunction with the Agency for Healthcare Research and Quality — an existing division of the Department of Health and Human Services — which already does research into technology assessments, health care costs, utilization projects, case studies and a medical expenditure panel survey. Until further research is conducted, the commission and other institutions could make use of HSRProj Database, which provides extensive data from research currently being done in this area. This data would then complement any additional research done by the NCSW.

The cost-effective analysis would employ the Quality Adjusted Life Year measurement, which is used to determine how much a person's life can be improved by using a certain drug or treatment. The dollar per QALY unit is accepted worldwide as a standard for measuring cost-effectiveness for medical treatments and is used by many agencies internationally, including England's National Institute for Health and Care Excellence. In using the $/QALY unit to determine cost-effectiveness, the USHP, as well as other insurance providers, would be able to work with a panel of physicians to determine the treatments covered for different plans. Higher coverage plans would allow for higher (less cost-effective) $/QALY units for the treatments that they covered.[20]

Price Transparency

About 70 million Americans have difficulty paying for their medical treatments or have medical debt.[21] Additionally, the primary cause of bankruptcies in the U.S. is medical debt.[22] Many experts attribute high medical costs to chargemasters.[23] A chargemaster is a list of prices that a hospital or clinic charges for each and every product or service provided. It usually contains highly inflated prices at several times that of the actual costs to the hospital.[24] These

prices serve as starting points for payment negotiations with health insurance companies, Medicare and patients without coverage. Confidential independent negotiations with separate parties lead to the charging of different prices to each health care provider. It also puts individuals without coverage in an unfavorable position since they have no bargaining power with hospitals to reduce chargemaster prices.[25] In fact, uninsured and self-pay patients have been charged an average of 1.5 times the price health insurance companies pay for the same products and services, and up to three times the price Medicare pays.[26,27] While most medical reform has been focused on reducing costs and improving efficiency, it is important to address how prices are determined and charged.

Our third proposal is the creation of a law requiring hospitals to publicly disclose the prices they charge each health care provider for different treatments and services. This would allow insurance companies to compare prices that they pay for certain goods at specific hospitals, which would lead to price renegotiations.[28] The end result would be an equilibrium state where all health care providers would be charged the same prices for the same set of goods at a hospital. Additionally, patients who opt out of medical insurance or who undergo procedures not covered by their plans would be informed of the prices hospitals charge health insurance companies and would negotiate down to the same price point.

Two points often brought up in the subject of charged prices are the leverage large hospital systems have over insurance companies in establishing prices paid and the potential decline in quality to increase profit by reducing costs.[29,30] Large hospital chains control a larger share of the market and seem to have even more leverage in negotiating prices with insurance providers, as well as a strengthened ability to cut costs by reducing quality. In fact, some studies have shown that hospital mergers and consolidation lead to increased readmission rates indicative of lower quality of care, higher price-cost margins and increases up to 40 percent in prices charged.[31,32]

It is tempting to propose the enaction of antitrust policies to prevent unfair bargaining leverage, decrease in quality and increase in costs. However, studies addressing the effects of mergers and acquisitions on hospital pricing and quality of care are often conflicting, unclear and tend to be inconclusive.[33] In theory, antitrust policies would eliminate monopolistic characteristics of hospital chains, which would decrease price and increase quality. Since there is little supporting research, more empirical studies need to be done on this subject in order to warrant the implementation of such drastic policies.

National Electronic Medical Records System

In 2009, President Obama signed into law the American Recovery and Reinvestment Act. As part of this $787 billion nation-wide stimulus package, $25.9 billion was dedicated to improving and promoting information technology in the health industry under the Health Information Technology for Economic and Clinical Health Act.[34] One of the main goals of the HITECH Act is to promote the adoption and efficient use of electronic health records systems across the U.S. The act accomplishes this by providing incentive payments through increased

Medicaid reimbursement to hospitals who implement electronic systems and penalizing hospitals that do not by decreasing payments.

The concept of promoting the adoption of such systems through Medicaid payment increases is very inefficient, benefiting some hospitals more than others. Furthermore, hospitals would still have the burden of enduring start-up, maintenance, security and training costs associated with effective implementation. Moreover, the HITECH Act does not define a standardized electronic medical record format or specific provider for hospitals to use. This causes the development of an array of different systems that are not compatible with each other, severely limiting the potential of an efficient nation-wide electronic medical records system.

Our fourth proposal is to implement a national electronic medical records database where records from all patients in the U.S. would be stored. This would allow for easy access to a patient's records from anywhere in the country and by any doctor. Electronic records would give doctors instant access to important information such as patients' medical histories, test results and prescribed medications.[35] Patients would be able to access their medical records, see its full contents and even edit or update certain sections to ensure the highest possible accuracy. The National Electronic Medical Records System would be maintained and hosted by the government, providing the highest level of cyber security and accessibility from anywhere in the nation. Furthermore, this service would be made available to any and all hospitals in the U.S., as it would have all the resources necessary for mass expansion.

This system would provide doctors with more time to treat ailments by reducing the time spent gathering patient information. Additionally, electronic medical records systems have been shown to reduce the number of mistakes made by doctors, increase physician performance and patient outcome, and decrease the number of unnecessary tests conducted.[36,37,38] Computer based clinical reminder systems have also been shown to increase preventative practices such as vaccinations, breast cancer screenings, colorectal cancer screening and cardiovascular risk reduction.[39] The effective use of electronic medical record systems in primary care could result in a positive financial return on investment to the health care organization.[40] A study by Rand Corporation in 2005 stated that the U.S. could save up to $81 billion if there was widespread adoption of an effective medical records system.[41] The NEMRS would improve upon existing systems in the U.S. and more efficiently reap the benefits of electronic medical records systems implementation.

Malpractice Lawsuit Limitations

Physicians identify high medical malpractice insurance costs as a key factor for high health care costs. Malpractice lawsuits are filed when a patient believes a physician has breached his duty by failing to adhere to the standard of care expected and this breach of duty causes an injury to the patient. The purposes of malpractice lawsuits are to deter unsafe practices, to compensate patients injured by negligence and to exact corrective justice.[42] In theory, this justice system is efficient, and in reality this tort system does, in fact, tend to deter unsafe practices, compensate patients with meritorious claims, and exact justice on physicians who

have been negligent.[43] However, this system also leads to the practice of defensive medicine, as physicians order tests and treatments that are of very little benefit with the intent of reducing liability in the event of a malpractice lawsuit.[44] Such unnecessary measures lead to excess costs of about $60 billion in the health care system.[45] Additionally, it appears that only 17 percent of claims made in malpractice courts actually involve a negligent injury. The key factor of payment was the patient's degree of disability, not the occurrence of negligence.[46,47] In its current state, medical malpractice litigation seems to have many unwanted consequences and requires reform.

Our fifth proposal is to create laws that would limit these unwanted costs and consequences from medical malpractice litigation while maintaining its main goals. Studies have found that 60 percent of expenditures in the medical malpractice system are administrative costs, primarily legal fees.[48] One reform we propose is the creation of screening panels for all malpractice lawsuits filed in order to assess the merit of claims before they head to court. In other areas of law, screening panels promote settlements and prevent nonmeritorious claims before they turn into lengthy litigation in the courts. This would also discourage patients from filing such nonmeritorious lawsuits and lawyers from accepting them, thus reducing the overall administrative costs of the medical malpractice system.

Secondly, we propose putting limits on the payouts of medical malpractice lawsuits. Caps would allow insurers to more accurately predict their expenditures and shrink the amount they would have to payout, thereby reducing the cost of malpractice insurance for physicians.By making the most lucrative lawsuits worth less, we would also be limiting the profit lawyers could make from such lawsuits, further discouraging lawyers from defending nonmeritorious claims.

Thirdly, we propose establishing a panel of medical consultants in the medical malpractice system. These board certified consultants would have a thorough understanding of necessary tests and procedures that patients need in a variety of situations. They would determine the definition of "standard of care" in many medical contexts. This would help reduce defensive medicine, as physicians across the country would be provided with a set of guidelines to follow in order to meet the minimum requirements for liability evasion.

Generalist Emphasis

Our sixth proposal is to encourage the implementation of policies that promote medical students to become primary care physicians. Studies have shown that a 1 percent increase in primary care physicians reduces hospital admissions by 500, emergency department visits by 3,000 and surgeries by 500.[49] An emphasis in general practitioners increases coordination of care and promotes preventative care, as opposed to fixative care.[50,51] Suggested policies include increasing loan forgiveness programs for medical students and reinstatement of the Generalist Physician Initiative, both of which have been very effective in increasing the number of medical students choosing to be primary care physicians.[52,53] The Generalist Physician Initiative was the largest of its kind to be implemented in various medical schools in the U.S. from 1991 to 2001. Its efforts included creating mentor relationships between students and

primary care physicians, creating specialized tracks in medical schools for primary care, and implementing more fieldwork for medical students in the community setting. Such policies would ultimately reduce costs by shifting emphasis away from expensive tertiary care to more cost-efficient preventative care.[54,55,56]

Conclusion

Aside from performing individually to address the issues of cost, accessibility and quality in the health care system, the proposals made here also work together to maximize total effectiveness of changes made and resources used. The United States Healthcare Provider serves to increase competition in the insurance marketplace by giving citizens a more affordable option. The USHP would use the cost-effective analysis conducted by the National Commission for Superior Well-being to determine which treatments are covered at different plan levels. In this way, the USHP is able to fully optimize the coverage it provides to its customers. Price transparency would work in unison with the USHP in that its potential size would give it massive bargaining power, helping to bring down negotiated prices for goods and services in the medical marketplace. This same leverage could be used to encourage the adoption and effective use of the National Electronic Medical Records System as well as discourage practices that would cause hospitals to have high rates of malpractice lawsuits. The NEMRS would benefit the USHP as well as every other insurance provider, as it would reduce unnecessary prescriptions and treatments — thus reducing provider costs — and would prevent malpractice lawsuits by decreasing the number of mistakes made by physicians. Other insurance providers would be able to offer more comprehensive coverage to their customers with their access to the NCSW's cost-effective analyses of medical products and services. These analyses would also benefit price transparency by providing the $/QALY unit for each and every product and service offered by hospitals, promoting the reduction in price of those that are less cost-effective. An increased emphasis in generalists would complement these policies by reducing the need for expensive tertiary care.

The health care system in the United States is in need of reform in order to adequately care for all Americans. The United States is widely recognized by the global community as one of the few countries that does not provide universal health coverage. While we are famous for our advanced medical services, we are also burdened by some of the highest costs in the world and inaccessibility of medical services to a number of citizens. The policies proposed in this paper work, both individually and in unison, to lower the costs, increase quality and increase accessibility of the health care system we have in place.

Endnotes

1. Patient Protection and Affordable Care Act, H.R.3950, 111th Cong, 2010.

2. Rick Ungar, "Busted! Health Insurers Secretly Spent Huge To Defeat Health Care Reform While Pretending To Support Obamacare," *Forbes*, June 25, 2012.

3. David M. Cutler, and Richard J. Zeckhauser, "Adverse Selection in Health Insurance," *Forum for Health Economics & Policy* 1 (1998).

4. P. Kasperowicz, "House Dems Push Again for Creation of Government-run Insurance Option," *The Hill*, January 16, 2013.

5. UnitedHealth Group Incorporated, "Annual Report Pursuant to Section 13 or 15(D) of the Securities Exchange Act of 1934 for the Fiscal Year Ended December 31, 2012," U.S. Securities and Exchange Commission, 2012, http://www.unitedhealthgroup.com/investors/~/media/d6237677fb704a47b3f09d005a6a4c16.ashx.

6. A. Boncimino, "Public vs. Private," *Chicago Business*, April 8, 2013.

7. M. Henricks, "Building a Fast Growth Company," *Entrepreneur*, March 31, 2005.

8. Paul R. Krugman, and Robin Wells, *Microeconomics* (New York: Worth, 2009).

9. R. Schmalensee, "Output and Welfare Implications of Monopolictic Third-degree Price Discrimintion," *The American Economic Review* 79 (1981): 242–47.

10. H. Varian, "Price Discrimination and Social Welfare," *The American Economics Review* 75 (1985): 870–75.

11. T. J. Holmes, "The Effects of Third-Degree Price Discrimination in Oligopoly," *The American Economics Review* 79 (1989): 244–50.

12. B. Abbe, "Using Tax Credits and State High-Risk Pools to Expand Health Insurance Coverage," *Health Affairs* (2002): W345–348.

13. Stewart Myers, and Richard Brealey, *Principles of Corporate Finance*, 6th ed. (McGraw Hill, 1999).

14. J. Lee, and M. Yu, "Valuation of catastrophe reinsurance with catastrophe bonds," *Insurance: Mathematics and Economics* 41 (2007): 264–78.

15. S. Mortimer, "Aetna Unit to Sponsor First Health Insurance CAT Bond," *Reuters*, November 25, 2010.

16. "Standard and Poor's Definition," *Bankers Almanac*, September 20, 2010.

17. "About GAO," U.S. Government Accountability Office, http://www.gao.gov/about/index.html.

18. Measuring Effectiveness and Cost Effectiveness: The QALY," National Institute for Health and Care Excellence, last modified April 20, 2010, http://www.nice.org.uk/newsroom/features/measuringeffectivenessandcosteffectivenesstheqaly.jsp.

19. "Health Care Costs," Agency for Healthcare Research and Quality, http://www.ahrq.gov/research/findings/factsheets/costs/index.html.

20. L. B. Russell, J. E. Siegel, N. Daniels, M. R. Gold, B. R. Luce, and J. S. Mandelblatt, "Cost-Effectiveness Analysis as a Guide to Resource Allocation in Health: Roles and Limitations," *Cost-Effectiveness in Health and Medicine* (New York: Oxford University Press, 1996), 3–24.

21. S. Heavey, "Consumers Face Rising Medical Debt: Survey," *Reuters*, August 20, 2008.

22. D. Mangan, "Medical Bills are the Biggest Cause of US Bankruptcies: Study," *CNBC*, June 25, 2013.

23. S. Brill, "Bitter Pill: Why Medical Bills are Killing Us," *Time Magazine*, March 4, 2013.

24. T. Rosenberg, "Revealing a Healthcare Secret: The Price," *New York Times*, August 1, 2013.

25. M. K. Kyle, and D. B. Ridley, "Would Greater Transparency And Uniformity Of Health Care Prices Benefit Poor Patients?" *Health Affairs* 26 (2007): 1384–391.

26. L. Lagnado, "Anatomy of a Hospital Bill," *Wall Street Journal*, September 21, 2004.

27. G. F. Anderson, "From 'Soak The Rich' To 'Soak The Poor': Recent Trends In Hospital Pricing," *Health Affairs* 26 (2007): 780–89.

28. G. R. Wilensky, "Consumer-Driven Health Plans: Early Evidence And Potential Impact On Hospitals," *Health Affairs* 25 (2006): 174–85.

29. Keith Brand, G. Gowrisankara, A. Nevo, and R. Town, "Mergers When Prices Are Negotiated: Evidence from the Hospital Industry" (working paper, the National Bureau of Economic Research, Cambridge, MA, 2013): 1–40.

30. G. Melnick, and E. Keeler, "The effects of multi-hospital systems on hospital prices," *Journal of Health Economics* 26 (2007): 400–13.

31. Vivian Ho, and Barton H. Hamilton, "Hospital Mergers and Acquisitions: Does Market Consolidation Harm Patients?" *Journal of Economics* (2000): 767–91.

32. G. J. Bazzoli, D. Marx, R. J. Arnould, and L. M. Manheim, "Federal Antitrust Merger Enforcement Standards: A Good Fit for the Hospital Industry?" *Journal of Health Politics, Policy, and Law* 20 (1995): 137–69.

33. M. Gaynor, "Can Governments do it Better? merger Mania and Hospital Outcomes in the English NHS," *CMPO Working Paper Series* 12th ser. (2012): 281.

34. American Recovery and Reinvestment Act of 2009, H.R.1, 111th Cong, 2009.

35. R.D. Fletcher, R. E. Dayhoff, C. M. Wu, A. Graves, and R. E. Jones, "Computerized Medical Records in the Department of Veterans Affairs," *Cancer* 91 (2001): 1603–1606.

36. D. L. Hunt, R. B. Haynes, S. E. Hanna, and K. Smith, "Effects of Computer-based Clinical Decision Support Systems on Physician Performance and Patient Outcomes: A Systematic Review," *Journal of the American Medical Association* 280 (1998): 1339–346.

37. D. W. Bates, M. Ebell, E. Gotlieb, J. Zapp, and H. C. Mullins, "A Proposal for Electronic Medical Records in U.S. Primary Care," *Journal of American Medical Informatics Association* 10, no. 1 (2003): 1–10

38. R. B. Elson, and D. P. Connelly, "Computerized Patient Records in Primary Care. Their Role in Mediating Guideline-driven Physician Behavior Change," *Archives of Family Medicine* 4 (1995): 698–705.

39. S. Shea, W. DuMouchel, and L. Bahamonde, "A Meta-analysis of 16 Randomized Controlled Trials to Evaluate Computer-based Clinical Reminder Systems for Preventive Care in the Ambulatory Setting," *Journal of American Medical Informatics Association* 3 (1996): 399–409.

40. S. Wang, "A cost-benefit analysis of electronic medical records in primary care," *The American Journal of Medicine* 114 (2003): 397–403.

41. A. L. Kellermann, and S. S. Jones, "What It Will Take to Achieve the As-Yet-Unfulfilled Promise of Health Information Technology," *Health Affairs* 32 (2013): 63–68.

42. Page Keeton, and William L. Prosser, *Prosser and Keeton on the Law of Torts* (St. Paul, MN: West Pub. Co., 1984).

43. David M. Studdert, Michelle M. Mello, and Troyen A. Brennan, "Medical Malpractice," *New England Journal of Medicine* 350 (2004): 283–92.

44. Daniel Kessler, and Mark McClellan, "Do Doctors Practice Defensive Medicine," *The Quarterly Journal of Economics* (1996): 353–90.

45. P. J. Bixenstine, A. D. Shore, W. T. Mehtsun, A. M. Ibrahim, J. A. Freischlag, M. A. Makary, "Catastrophic Medical Malpractice Payouts in the United States," *Journal of Healthcare Quality* (2013).

46. A. Russell Localio, Ann G. Lawthers, Troyen A. Brennan, Nan M. Laird, Liesi E. Hebert, Lynn M. Peterson, Joseph P. Newhouse, Paul C. Weiler, and Howard H. Hiatt, "Relation between Malpractice Claims and Adverse Events Due to Negligence," *New England Journal of Medicine* 325 (1991): 245–51.

47. Troyen A. Brennan, Colin M. Sox, and Helen R. Burstin, "Relation Between Negligent Adverse Events and the Outcomes of Medical-Malpractice Litigation," *The New England Journal of Medicine* 335 (1996): 1963–67.

48. James S. Kakalik, and Nicholas M. Pace, *Costs and compensation paid in tort litigation* (Santa Monica, CA: The Institute for Civil Justice, Rand, 1986).

49. S. Kravet, A. Shore, R. Miller, G. Green, K. Kolodner, and S. Wright, "Health Care Utilization and the Proportion of Primary Care Physicians," *The American Journal of Medicine* 121 (2008): 142–48.

50. Barbara Starfield, Leiyu Shi, and James Macinko, "Contribution of Primary Care to Health Systems and Health," *The Milbank Quarterly* 83 (2005): 457–502.

51. Nick Hex, "The Impact of NHS Reform" (lecture, York Health Economics Consortium, University of York, York, England, May 17, 2013).

52. Roberto Cardarelli, "The primary care workforce: A critical element in mending the fractured US health care system," *Osteopathic Medicine and Primary Care* 3 (2009): 11.

53. Clare Gerada, "Keynote Address" (speech, Royal College of General Practioners, London, May 28, 2013).

54. K. Menehan, "Generalist Physician Initiative," Robert Wood Johnson Foundation, July 22, 2003, http://www.rwjf.org/en/research-publications/find-rwjf-research/2003/07/generalist-physician-initiative.html.

55. Donald E. Pathman, Thomas R. Konrad, Tonya S. King, Donald H. Taylor, and Gary G. Koch, "Outcomes of States??? Scholarship, Loan Repayment, and Related Programs for Physicians" *Medical Care* 42, no. 6 (2004): 560–68.

56. K. Menehan, "Increasing the Number of Generalist Physicians Practicing in Underserved Communities in Texas," Robert Wood Johnson Foundation, June 25, 2003, http://www.rwjf.org/en/research-publications/find-rwjf-research/2003/07/increasing-the-number-of-generalist-physicians-practicing-in-und.html.

Active Purchasing on the Federally Facilitated Health Care Exchanges

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Introduction

Despite what felt like a climatic end to a long political struggle in 2010, many questions still remain regarding the implementation of the Patient Protection and Affordable Care Act. In recent headlines, commenters have debated whether the proposed health care exchanges will preserve quality while lowering prices as promised. This paper proposes that, while the ACA laid a strong foundation toward sustainable health care, more work is needed in order for the federal health care exchanges to reach their maximum potential. Specifically, the United States federal government should institute regulation beyond the initial minimum requirements of the ACA and create an active purchasing scheme via a competitive bidding process executed through a multidimensional, reverse auction system for every applicable federally facilitated health care exchange. Health insurers would compete for a limited number of slots to sell their insurance on the exchanges. No more than 12 plans would be offered on any one exchange, not counting identical plans offered at multiple actuarial value levels.

There is a large amount of potential for the Department of Health and Human Services to have a lasting impact on health care within the United States. Currently, HHS will have full authority over the 2014 operation of 34 health care exchanges across the country, though some states will help execute certain aspects of the exchange.[1] This means the federal government has the opportunity to define what health care for the uninsured looks like for over half of the country. Creating a plan limit through a reverse auction system would address three of the most pressing issues facing health care today. First, competitive bidding would significantly defray the costs of health care to individual consumers through an increase in government leverage. Second, decreasing plan options would mitigate any concerns regarding the cognitive limits of consumers in the health care market. Third, resultant risk pooling along with quality screenings during the auction process would place a large check on adverse selection.

Increasing Government Leverage

Health insurers within the country have a unique window of opportunity in which a new swath of demand will near-instantly appear in 2014, as the ACA mandates that most of the United States' currently uninsured citizens will be required to purchase some form of health care. While many of these uninsured will begin searching for a health care plan in 2014, many more will not start looking until 2015 or later when penalties for not being insured become substantially higher. The Congressional Budget Office estimates that 7 million consumers will

enroll in the exchanges in 2014, with that number rising to 24 million by 2023.[2] Additionally, most insurers are cognizant of the long-term implications of this new demand. Economists frequently refer to a well-documented trend within the health care field known as "inertia," where "once choices [regarding health care insurance] are made, many consumers are inattentive and do not evaluate or respond to switching opportunities."[3] Insurers are not just vying for short-term revenue, but for lifetime customers.

Eager to supply these new customers, insurers will likely comply with additional government regulations that might in another context be overly burdensome. HHS should capitalize on these special circumstances and create a competitive reverse (or procurement) auction system where insurers submit bids to HHS in order to offer their plans on the exchange. Doing so essentially aggregates the demand of uninsured individuals within a state in order to increase negotiating leverage and keep premium costs down.

However, the structuring of this reverse auction system is critical. A revealing example is the electronic HMO auctions for Fortune 500 companies in the late 1990s and early 2000s. Starting in 1999, HMO providers competed for the opportunity to sell health care to the massive firms IBM, Morgan Stanley and Ikon Office Solutions. Initially, "the overall reduction in annual rates ranged from 2 to 8 percent, which translated into a combined savings of $1.1 million for the three participating employers."[4] Unfortunately, "auctions in 2001 failed to generate appreciable cost savings for the employers and were subsequently discontinued. A market that showed immense promise in its first year could be only sustained for two more years."[5]

The inability to consistently keep prices down has been attributed to a few key design flaws, primarily in the information revealed during the auction process and the determination of the HMO providers.[6] Policymakers should be aware of these previous failures and focus on two primary design elements aimed toward minimizing cost for consumers: an open-bid system with only partial disclosure of information (name of auction participants, number of participants, value of individual participant bids, etc.) and a multi-dimensional auction-determined designation of the winner.

First, the process of competing for slots on the federal exchanges should be facilitated through an open-bid process, where information about participants and bids is disclosed while allowing competitors to revise their initial bids, as opposed to a sealed-bid process where competitors submit a single bid and a winner is determined after all bids are submitted. "Open-bid… auctions generate lower prices because the iterative nature of the auctions allows bidders to revise their reservation price."[7] In the context of the hypothetical exchange auctions, this would mean insurance providers, wary of not winning a spot on the exchange after observing counterbids by fellow insurers while simultaneously being influenced by those other valuations, would revise their initial bids and offer lower premiums or higher quality coverage in order to remain competitive.

However, this is not without a caveat. A perfectly open system in which all information regarding competitors and the price and quality of their bids is disclosed provides a disincentive

to continue to bid down if a competitor sees that all other bids are relatively high,[8] given that the current winning bidder can feel confident that they will win the auction with little revision of their bid. As such, it is important to incorporate a partial disclosure system. Based on case study analyses of regular buyers, sellers and facilitators in electronic reverse auctions, Carter et al. recommend disclosing only the individual relative rank per competitor within the auction.[9] Doing so generates more aggressive bidding, particularly from the first, second and third place bidders; in stark contrast to the problem with complete information disclosure, the first place bidder does not know how much they are winning by and feels pressured to continue to offer bids closer to their actual valuation of the product (the valuation of a spot on the exchange in the context of this paper), while the second and third place bidders, not knowing how much they are losing by, also bid closer to their valuation under the hope that they may still win the auction.[10] Open-bidding processes will allow federal exchanges to substantially decrease premium costs for consumers buying exchange plans.

In general, economists are often skeptical of auction design leading to lower prices and cite the Revenue Equivalence Theorem as a counter argument, which broadly "provides a set of assumptions under which the sellers' and buyers' expected payoffs are guaranteed to be the same under different auction formats."[11] While a complete dissection of the theorem is outside of the scope of this paper, there are two primary reasons why revenue equivalence does not likely apply to the specified cost-reducing design of the federally facilitated health care exchanges. First, both of the premier studies proposing the theorem, Riley and Samuelson along with Myerson, base their research off of the assumption that bidders are risk-neutral and suggest that their findings are not applicable to a risk-averse bidding population.[12,13] Given the current amount of uncertainty and ambiguity in the creation and execution of the exchanges, it would likely be appropriate to model insurance providers, at least during the first few years of the exchange, as risk averse.

Second and more importantly, numerous empirical studies suggest that the Revenue Equivalence Theorem does not hold up in real-world contexts, regardless of its theory-based mathematical precision. To offer a few examples, Hossain and Morgan found in an experiment analyzing eBay auctions for Xbox video games and popular music CDs that at low reserve prices (the reserve price consisting of both a minimum opening bid and shipping costs) relative to the retail value of the item, a seller generates more revenue by using a low minimum opening bid and high shipping costs to create the relatively low reserve price than using a high minimum opening bid and low shipping costs to create an equivalent reserve price, largely due to the way consumers perceive those equivalent reserve prices.[14] Tenerio in an analysis of Zambian foreign exchange auctions found that auction designs that encourage greater amounts of competition (primarily measured in the ability to revise bids and the amount of information disclosed) yield higher average revenues than less competitive designs. Tenerio suggests that this is likely due to another violation of Myerson's or Riley and Samuelson's assumptions, where bidders' valuations of products are not independent, as the two works suggest,[15,16] but rather valuations are influenced by one another in a competitive atmosphere.[17] Lucking-Reiley, in an approach similar to Hossain and Morgan, used a series of field experiments involving collectible trading cards in online auctions to test the basic

theoretical proposition of William Vickrey — the intellectual predecessor of both Myerson and Riley and Samuelson — that first-price sealed bid auctions and Dutch auctions produce equivalent revenues. Lucking-Reiley found that Dutch auctions produced 30 percent more revenue than first-price sealed bid auctions.[18] Put briefly, the assumptions of the Revenue Equivalence Theorem likely do not apply to the context of the new health care exchanges, and the theorem does not definitively hold up empirically, suggesting it should have little weight in structural decisions. Using a limited disclosure ranking system has the potential to significantly reduce premiums and costs for the uninsured within the United States.
All of that being said, the only goal of the exchange cannot be reducing cost. The bidding system must encourage quality improvements as well, which can be accomplished through multidimensional auction-determined administering of contracts. While reverse auctions are often used by firms to procure homogenous goods at a competitive price, this does not always have to be the case. HHS could hypothetically create a formula where "relevant attributes of the product (e.g., price, quality, delivery time) are assigned weights to compute a score, which is then used to compare the bids."[19] Incorporating multidimensional analysis would be necessary in determining high-value health care plans. As an example of the approach's success, Chen-Ritzo et al. found in a controlled laboratory experiment context that "in comparison with the price-only auction... [a multi-attribute reverse auction] design is effective in increasing both buyer utility and bidder (supplier) profits."[20] A multi-attribute approach allows for complex analysis about plan quality while keeping costs low.

While instituting a multi-attribute, partial disclosure reverse auctioning system in order to increase leverage and thus drive down costs would be relatively new for the health care industry, many other areas of the federal government have already proven that the approach is effective in terms of both reducing cost and improving quality. When looking at contracts for highway construction in recent years, bidding systems have incorporated not only the cost of completing the job, but also the time it would take to complete the job. Analysis has shown these bidding systems in which time and cost were explicitly calculated as part of the overall value of bids have significantly improved construction outcomes.[21] In short, both academia and contemporary examples suggest that a reverse bidding system for positions on the federal health exchanges would do much to both decrease cost and improve quality.

Circumventing Cognitive Restraints

Another important benefit, plan limits would enable consumers to make rational decisions in light of cognitive constraints. General microeconomic wisdom holds that choice and competition are largely beneficial, allowing consumers to sort through various products offered and purchase the best offering. However, this wisdom is contingent on rational consumers capable of running that cost-benefit analysis for each product on the market. More and more, economists are realizing that this is not a reasonable assumption.

When analyzing surveys from individuals investing in 401(k) options, Iyangar et al. found individuals who were offered 10 or more options were less likely to participate in 401(k) retirement savings plans than those who were offered less options. The study ascribes this

to a sense of intimidation created in the presence of a multitude of options.[22] Health care consumers have directly voiced similar criticisms. For example, a 2006 poll found that in the wake of Medicare Part D reform, 68 percent of seniors polled stated that they would be in favor of simplifying benefits by reducing the number of available plans.[23] Too much choice can frustrate consumers and even prevent them from making a decision.

Similarly, experimental evidence suggests an excess of choice also decreases the effectiveness of decision-making. In 2007, Hanoch et al. conducted a controlled experiment in which participants were randomly assigned to one of three different groups where they were asked to determine which among three, 10 or 20 prescription drug plans would be the most cost effective under several different scenarios. The study found that providing participants with a higher number of plans was significantly and negatively associated with the number of correct identifications of the most cost effective plan among the options given.[24] The study notes that the experimental context is highly simplified, where consumers in real life would have to deal with a substantially larger amount of plans as well as more complicated formulas with specific qualifications for coverage.[25] Actual consumers likely struggle far more than what the Hanoch study suggests.

Thinking more about how the specific structure of the federal health care exchanges influences choice, recent economic theory indicates consumer choice is a hierarchical process in which a consumer first chooses a "set" and then chooses the actual product they wish to buy. The classic example is when a consumer decides to purchase a meal; rather than going directly to buying a meal, they first select a restaurant (the set), and then choose their meal (the product) from within the restaurant. Building off of this model of consumer choice, Kahn and Lehmann conducted several experiments on what makes sets preferable to consumers. They found that sets were more appealing not only if they offered the most preferred product, but also if "the effort required to weed out unacceptable alternatives" was minimal.[26] Translating this into health care exchanges, plans can be thought of as already bundled into sets based on their "medal" actuarial value, which have the clear labels of "bronze," "silver," "gold" and "platinum."[27] A consumer could decide to first pick their actuarial value (the set) and then choose a specific plan (the product) within that actuarial value. It is important for consumers to choose the appropriate value for their risk type and overall health status. However, if hypothetically marketing to one particular risk type is especially appealing to insurers given a state's demographic makeup, exchanges could see some actuarial levels with many plans and other levels with few.

Given Kahn and Lehmann's findings, it is possible that in these conditions, consumers would be less likely to choose a certain actuarial set, even if it is in their best interest. A plan limit would ensure that any one actuarial value could not become congested with an excess of options, meaning consumers would be more likely to choose an actuarial value that reflects their needs rather than being intimidated at the prospect of having to sort through the "weeds." Again observing McFadden et al.'s discussion on inertia,[28] ensuring that consumers make the "right" choice is important, as their initial decision is likely to have long-term implications on their access to health care. Creating a limit on the number of plans offered on

the federal exchanges would greatly improve consumer decision-making; manageable choice encourages consumers to make decisions at all and increases the probability that the decisions they make are beneficial.

Minimizing Adverse Selection

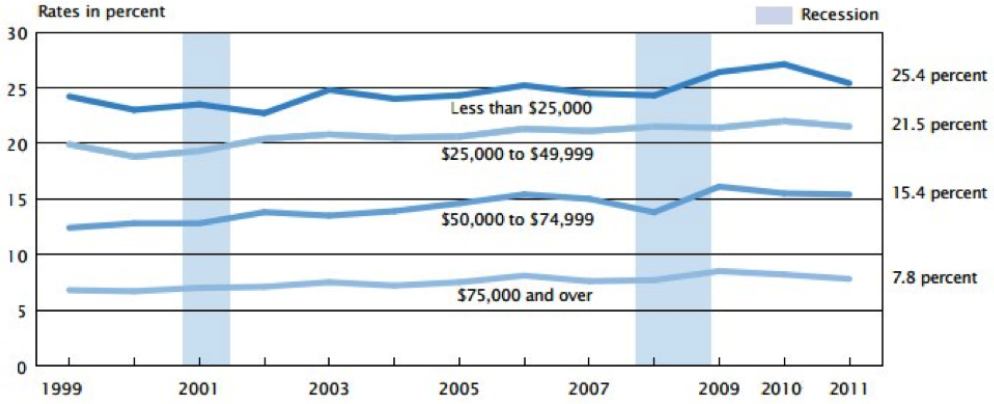
A third benefit of instituting a plan limit on the federal exchanges is the impact on adverse selection. Adverse selection in relation to the construction of health care exchanges has two primary manifestations: adverse selection *between* the exchange and the outside market where high-risk patients are largely concentrated within the exchange due to more stringent quality requirements on the exchange, and adverse selection *within* the exchange where high-risk patients are concentrated in specific high-quality plans on the exchange.[29] The ACA has provisions already in place to adequately address adverse selection between the exchange and the outside market, which will be covered briefly. The proposed policy of a limit to the number of plans on the federally facilitated exchanges, however, looks to primarily address within-exchange adverse selection.

When looking at adverse selection between the exchange and the outside market, there are two features of the Affordable Care Act that suggest adverse selection will be minimal. First, referencing the earlier analysis in the "Increased Government Leverage" section of this paper, the new ACA individual coverage mandate represents a new source of revenue to insurers. Because HHS will inevitably widely publicize the federal exchanges, plans on the exchanges will be much more competitive in attracting new purchasers than plans outside the exchanges, suggesting that exchanges will be able to easily compete for both low-risk and high-risk customers.

Second, the federal government has offered attractive subsidies for low-income citizens looking to buy plans on the exchange; families with incomes up to four times the national poverty line will qualify for a series of scaling premium discounts. For example, "a family of four earning $94,200 and purchasing a silver-level plan carrying a $12,500 annual premium will get a subsidy worth $3,550, which limits the cost of the premium to 9.5 percent of the family's income."[30] The uninsured within the United States is composed primarily of the poor and lower-middle class, as evidenced by figures from the U.S. Census Bureau, meaning that the majority of the uninsured would qualify for these subsidies.[31]

Insurers operating within the exchange have an extreme advantage due to the ACA subsidies, again translating into the ability to easily attract both low-risk and high-risk patients. Thus, the only concern HHS needs to adapt to is adverse selection within the exchange.

Figure 1. Uninsured Rate by Real Household Income: 1999 to 2011



Fortunately, the ACA again has placed certain regulations that will limit the impacts of adverse selection within the exchange. Among other things, plans cannot (at least according to the letter of the law) use marketing or benefit design to discourage sick people from entering, and plans must offer a sufficient number and choice of providers within the local community.[32] These laws will likely prevent the most egregious forms of adverse selection or allow the federal government to intervene directly in such cases, but more subtle manifestations are still likely without more stringent regulations.

Creating a limit on the number of plans offered on the federal exchanges would further reduce adverse selection through the creation of additional limitations on discriminatory benefit design along with a pooling of risk types. First, if the United States was to adopt a multidimensional reverse auction system, its scoring process could hypothetically assign high weights to services that are deemed cost-effective and necessary. In this way, insurance packages that strategically carve out certain services in an effort to appeal to healthy individuals would never make their way on to the insurance exchange.

Second, limiting the number of plans leaves less room for healthy people to "hide" in low-cost plans, as risk-pooling is more probable. The primary concern regarding adverse selection is that insurance packages will become stratified where plans only contain high concentrations of either sick or healthy individuals, thus making costs unbearably high for sick individuals, arguably the people who need health insurance the most. However, with a limit on the number of plans, there is a greater chance that both low-risk and high-risk patients would be pooled together, bringing premiums down to a reasonable level for both parties (though admittedly higher than if the plans were comprised exclusively of healthy individuals).

Significant amounts of literature have been devoted to whether or not "pooling equilibriums" as described above are sustainable in the long term.[33] The key differentiation between this risk-pooling scheme and previous market analyses is that those analyses are predicated on at least a relatively competitive market where new plans are easily crafted to create a

separating equilibrium, offering different plans to high-risk and low-risk individuals. Under the reverse auction system, firms would not be able to place new plans on the exchange until the federal government held a new auction, all without any guarantee as to which plans would be selected. The uncertainty of HHS in their plan choice does not allow for the calculated maneuvering necessary for the creation of separating equilibriums.

Overall, the Affordable Care Act makes large strides toward preventing adverse selection from occurring between health care exchanges and free markets, but some improvements are still required in terms of adverse selection within plans on the exchange. Offering a limited number of plans on the federally facilitated exchanges as determined by a competitive reverse auction would hamper an insurance providers' ability to strategically appeal to low-risk individuals, while also pooling various risk types, thus substantially reducing the impacts of adverse selection and making health insurance more easily accessible for those with the greatest need.

Conclusion

During the next year, the federal government will explore new dimensions of health policy as they make the finishing touches to the insurance exchanges set to go into effect by 2014. Policymakers would be making a mistake if in the process of finalizing the exchanges they only abided by the minimal standards currently set by the Patient Protection and Affordable Care Act and created a clearinghouse-style market.

The country has a unique window of opportunity as new sources of demand and revenue are legally required to enter the market for health insurance. The government should seize this momentum and institute an active purchaser model through a competitive bidding system — utilizing a multi-attribute scoring metric and partial disclosure — to auction off a limited number of spots on the federal exchanges. Doing so would go a long way in combatting some of the most salient problems facing health care today: growing premium costs, consumer cognitive restraints due to system complexity and an excess of choice, and adverse selection. Policymaking is inevitably a dynamic process; the Department of Health and Human Services would be wise to build on the work done by the ACA and improve the health care exchanges in order to strive toward even greater ends.

Endnotes

1. US Government Accountability Office, "Status of CMS Efforts to Establish Federally Facilitated Health Insurance Exchanges," GAO-13-601 (Washington DC, June 19, 2013).

2. Congressional Budget Office, "Updated Budget Projections: Fiscal Years 2013 to 2023," May 14, 2013, http://www.cbo.gov/publication/44172.

3. Daniel McFadden, Joachim Winter, and Florian Heiss, "Consumer-Directed Health Care: Can Consumers Look after Themselves?" *Swiss Journal of Economics and Statistics* 144, no. 3 (2008): 285-307.

4. Alok Gupta, Stephen T. Parente, and Pallab Sanyal, "Competitive Bidding for Health Insurance Contracts: Lessons from the Online HMO Auctions," *International Journal of Health Care Finance and Economics* 12, no. 4 (2012): 303–22.

5. Ibid.

6. Ibid.

7. Ibid.

8. Ibid.

9. M. Carter, C. Ittner, and S. Zechman, "Explicit Relative Performance Evaluation in Performance-Vested Equity Grants," *Review of Accounting Studies* (2009): 246.

10. Ibid.

11. Lawrence M. Ausubel, "Auction Theory for the New Economy," *New Economy Handbook* (2003): 124–62.

12. John G. Riley and William F Samuelson, "Optimal Auctions," *The American Economic Review* 71, no. 3 (1981): 381–92.

13. Roger B. Myerson, "Optimal Auction Design," *Mathematics of Operations Research* 6, no. 1 (1981): 58–73.

14. Tanjim Hossain and John Morgan, "A Test of the Revenue Equivalence Theorem Using Field Experiments on Ebay," *Social Sciences Research Network* (2005), accessed September 11, 2014, doi.org/10.2139/ssrn.655449.

15. Riley and Samuelson, "Optimal Auctions."

16. Myerson, "Optimal Auction Design."

17. Rafael Tenorio, "Revenue Equivalence and Bidding Behavior in a Multi-Unit Auction Market: An Empirical Analysis," *The Review of Economics and Statistics* (1993): 302–14.

18. David Lucking-Reiley, "Using Field Experiments to Test Equivalence between Auction Formats: Magic on the Internet," *American Economic Review* (1999): 1063–80.

19. Gupta, Parente, and Sanyal, "Competitive Bidding for Health Insurance Contracts."

20. Ching-Hua Chen-Ritzo, Terry P. Harrison, Anthony M. Kwasnica, and Douglas J. Thomas, "Better, Faster, Cheaper: An Experimental Analysis of a Multiattribute Reverse Auction Mechanism with Restricted Information Feedback," *Management Science* 51, no. 12 (2005): 1753–62.

21. Zohar J. Herbsman, Wei Tong Chen, and William C. Epstein, "Time Is Money: Innovative Contracting Methods in Highway Construction," *Journal of Construction Engineering & Management* 121, no. 3 (1995): 273.

22. Sheena S. Iyengar, Gur Huberman, and Wei Jiang, "How Much Choice Is Too Much? Contributions to 401 (K) Retirement Plans," *Pension Design and Structure: New Lessons from Behavioral Finance* (2004): 83–96.

23. Gary Claxton and Larry Levitt, "What the Actuarial Values in the Affordable Care Act Mean," in *Focus on Health Reform*, April 2011, accessed on September 11, 2014, http://kaiserfamilyfoundation.files.wordpress.com/2013/01/8177.pdf.

24. Yaniv Hanoch, Thomas Rice, Janet Cummings, and Stacey Wood, "How Much Choice Is Too Much? The Case of the Medicare Prescription Drug Benefit," *Health Services Research* 44, no. 4 (2009): 1157–68.

25. Ibid.

26. Barbara E. Kahn and Brian Wansink, "The Influence of Assortment Structure on Perceived Variety and Consumption of Quantities," *Journal of Consumer Research* 30, no. 4 (2004): 297.

27. Claxton and Levitt, "What the Actuarial Values in the Affordable Care Act Mean."

28. McFadden, Winter, and Heiss, "Consumer-Directed Health Care: Can Consumers Look after Themselves?"

29. Joel C. Cantor, "Preventing Adverse Risk Selection in New Jersey's Health Insurance Exchange and the Outside Individual and Small-Group Markets," (New Brunswick: Rutgers Center for State Health Policy, 2012).

30. Tami Luhby, "Millions Eligible for Obamacare Subsidies, but Most Don't Know It," *CNN Money*, 2013.

31. C. DeNavas-Walt, B.D. Proctor, and J.C. Smith, *Income, Poverty, and Health Insurance Coverage in the United States: 2011* (Washington, DC: US Government Printing Office, 2012).

32. Sabrina Corlette and J. Volk, "Active Purchasing for Health Insurance Exchanges: An Analysis of Options," *National Academy of Social Insurance* (2011).

33. Michael Rothschild and Joseph Stiglitz, "Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information," *The Quarterly Journal of Economics* (1976): 629-49.

The Effect of the Keystone XL Pipeline on Surrounding Cities: A Case Study on Port Arthur, Texas, and the Environmental Exploitation of Its People and Resources

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Introduction

Across the planet, people living in socio-economically disadvantaged areas experience the global trend of environmental exploitation, which is connected to environmental injustice. This is exemplified by the termination of the Keystone XL Pipeline in the city of Port Arthur, Texas, where minorities are exposed to the detrimental health effects of the petrochemical industry.

In July 2008, TransCanada Corporation, a North American energy company based in Calgary, announced the Keystone XL pipeline expansion. This $7 billion pipeline project would complement the original Keystone pipeline and nearly double the size and capacity of the Keystone Pipeline System, which includes the already constructed Phases I and II. With nearly 1,711 miles of new 36-inch-diameter pipeline, Keystone XL would be able to transport crude oil from an oil supply hub in Hardisty, Alberta, to delivery points in Oklahoma and Texas. With the addition of Keystone XL, the Keystone Pipeline System will have the capacity to deliver approximately 1.1 million more barrels of oil per day. Furthermore, since the United States consumes more than 20 percent of the world's petroleum supply and only has about 2 percent of crude oil proved reserves, this pipeline will aid the U.S. with energy security and independence. As many people await the fate of Keystone XL, it has become one of the most controversial infrastructure projects in modern American history.

Keystone XL is split into two phases: Phase III and Phase IV. Phase III, also known as the Gulf Coast Expansion, connects the town of Cushing, Okla., to the energy capital of the world — Houston, Texas. In addition, the pipeline connects to Port Arthur, Texas — which is a heavily industrial town that houses a profusion of oil refineries and chemical manufacturing plants. The 487-mile stretch from Oklahoma to Texas began delivering crude oil to Texas refineries in January 2014.[1]

Phase IV of the Keystone XL pipeline would connect Hardisty, Alberta, to Steele City, Neb., and would pass through the states of Montana, South Dakota, and Nebraska. While the original Keystone Pipeline was approved during the Bush administration, TransCanada is waiting on the approval of the Keystone XL extension by President Barack Obama. Since the extension's initial denial in 2012, TransCanada has reapplied for the presidential permit; however, the review process has been extended indefinitely by the U.S. State Department. Although TransCanada awaits approval for the northern segment of the Keystone XL pipeline, portions of the Keystone XL pipeline have already been constructed, specifically the Gulf Coast Expansion.

Environmental justice is one of the main controversies surrounding the Keystone XL pipeline. Environmental injustice can be characterized as "a situation in which a specific group is disproportionately affected by negative environmental conditions brought on by unequal laws, regulations and policies." Many minority groups, including low-income earners and African-Americans, are experiencing environmental injustice, especially near the Gulf Coast Extension. In addition, minority populations are disproportionately located near the Keystone XL pipeline route. While Executive Order 12898[2] requires all federal actions to address environmental justice in minority and low-income populations, the assessments and reviews conducted by the U.S. Department of State have been insufficient.[3] Instead of looking at long-term effects, many of the documents released have only focused on short-term effects of the pipeline. This paper argues that the Keystone XL pipeline, in particular the Gulf Coast Expansion, represents an environmental injustice to the residents of Port Arthur, Texas — many of whom are minority populations. After thoroughly examining Keystone XL and its impact on the residents of Port Arthur, we provide several recommendations on how to mitigate this controversial and environmentally unjust project.

Demographic Mapping

Figure 1. Comparison of Port Arthur, Houston and the State of Texas

	Port Arthur	Houston	Texas
Median Income	$32,178	$44,124	$50,920
% White Population	36.1%	50.5%	80.9%
% African-American Population	40.7%	23.7%	12.2%
% High School Graduate	73.8%	74.4%	80.4%
% College Graduate	10.3%	28.4%	26.1%

Source: U.S. Census Bureau, 2010

The demographic mapping of Port Arthur, Texas, reveals vital information about the social organization of the city and provides evidence that point toward environmental racism, a subset of environmental justice. Figure 1 outlines the 2010 census results for the cities of Port Arthur Houston and the state of Texas as a whole. According to the census, African-Americans make up 40.7 percent of Port Arthur's population; only 10.3 percent have college degrees or higher. Port Arthur's reported average household income as $32,178, which in the range of what the Census considers an average mid- to low-income family. When this data is compared to that of Houston, a direct correlation can be seen between minority population and income. This data suggests that African-American communities have disadvantages with regard to education and income equality, which could be due to social handicaps.

The New York Times' "Mapping the 2010 Census" demonstrates further social division in Port Arthur.[4] In the illustration, the west and port sides of the city are overwhelmingly dominated by the African-Americans; numbers vary from 65-89 percent of the total population in these areas. The portion of the white population rises significantly (up to 90 percent) in areas

farther away from the port. The implication of this data is that most oil refineries are built near the communities with very high African-American and minority populations.

One company, Motiva Enterprises, is currently on track to double the capacity of its existing refinery in Port Arthur in order to process the additional amount of crude oil that will be carried by Keystone XL. The end result would be a refinery complex that can process 600,000 barrels of crude oil per day — which would make it the largest in the nation. Even though scientific research emphasizes the negative health consequences of the refineries due to the emission of various chemicals, minority communities did not oppose the project, since they hope the expansion will bring economic prosperity and create jobs.

The biggest problem that west Port Arthur faces today is population loss. Since 2009, the population of Port Arthur has decreased by 5.3 percent. Furthermore, there has been a 30 percent decrease in the population of the west side of the city. Environmental activist and Port Arthur native Hilton Kelley, who directs a public health research project at The University of Texas Medical Branch at Galveston on the health status of the west Port Arthur communities, argues that the population decline is due to the close proximity of the population to the refineries and toxic chemicals polluting the air: "They're breathing sulfur dioxide, a toxin that messes with your respiratory system. People call that the rotten-egg smell … Clean, breathable air is a basic human right the folks out here have been deprived of." However, in a town where, according to Kelley, "the street is empty because no one owns cars," there still remain people who simply cannot afford to move out of the city. Consequently, they are forced to risk their health to stay in their current residences.

Political Representation

A complete understanding of the socio-political struggle over the construction of Keystone XL would be incomplete without a thorough knowledge of the approval process. While the construction of transnational projects is not unusual, there is a lengthy application and approval process that examines multiple factors including economic, cultural, environmental, health, energy security and foreign policy issues. Minority representation throughout this process is rare. The explanation behind minority injustices is made evident by examining the political and regulatory landscape.

As with any major transnational construction project, Keystone XL requires a presidential permit, which by Executive Order 13337 gives the Department of State the power to determine "whether granting the permit is in the national interest taking into account economic, energy security, foreign policy and other relevant issues." At this time, the Department of State may open the discussion to the public, although it is not under any obligation to do so. Furthermore, under the National Environmental Policy Act of 1969, the Department of State must conduct an environmental review, including an Environmental Impact Assessment and Environmental Impact Statement to identify the potential risks associated with a project's lifespan. Approvals from the Bureau of Land Management, the U.S. Army Corps of Engineers, and state, local, and regional authorities are also required. After completion, the proposal goes

to the executive branch for final approval. Consequently, only through elected representation and occasional public opinion gathering are citizens involved in the decision-making process.

Keystone XL is no exception. Because no direct citizen voting process exists for nationwide permit approvals, popular opinions — aside from those expressed through elected representatives — have little political sway. However, this particular pipeline project is unusual in that there were numerous opportunities for citizens to express their opinions through widespread public meetings and online forums. The extent of citizen engagement can partially be attributed to the influence of the media on the issue. One may find surprising that in communities that would be environmentally affected by the construction of the pipeline, popular consensus leaned toward support for the pipeline due to the potential for new jobs. Overall, 69 percent of American voters are in favor of the construction of the pipeline — 60 percent of Democratic voters approved and 92 percent of Republican voters approved of it.

Although the United States has made great strides in increasing minority representation at the federal and state levels, it is evident that in the case of Keystone XL, minority communities were not extensively included in the political process, especially during the approval of the Gulf Coast Expansion Project. Minority communities in areas that would be impacted by the project, such as Port Arthur, tend to prioritize the potential for job creation over the outlined environmental risks, a reversal of the current priorities of the executive branch.

Public Health Impact of Keystone XL

Keystone XL will have a large impact on both minority communities and the environment, especially at the terminus of Port Arthur. In addition to the large swath of Middle America that the pipeline will cross, there will also be environmental impacts at refineries dealing with the increased volume of heavy crude oil. Keystone XL will affect the entire environment, from the air to the soil to the socio-economic dynamics of the communities.

Most of the environmental and health effects that Keystone XL would cause are similar to the serious health problems observed in communities surrounded by refineries. The most serious environmental problem facing the Port Arthur community is the detrimental effect that the oil refineries have on air quality. The crude oil that is transported through the pipeline will mostly be dilbit, a diluted version of very viscous crude oil that is easier to transport. Dilbit requires more additives to obtain the right viscosity, increasing concentrations of known carcinogens and other toxins, such as benzene, 13-butadiene, styrene, ethylene oxide, methyl ethyl ketone, toluene, xylene, chlorine, n-hexane, methanol and ammonia. When the crude oil is processed, these contaminants can enter the air. The concentration of benzene, a known carcinogen, in the air and water is of great concern. Benzene concentrations in dilbit range from 0.03 to 0.3 percent. In standard crude, these concentrations are much lower.

The Department of Preventative Medicine and Community Health of The University of Texas at Galveston has conducted a comparison study that examined air quality, carcinogen levels and self-reported symptoms of adverse health effects in Port Arthur, Beaumont and Galveston.

In 2000, even before construction began on Keystone XL, benzene levels in the air in Port Arthur were three to seven times greater than those measured in Galveston. The same study also examined self-reported symptoms, divided into several categories, which could be linked to the presence of refineries: central nervous system, ear/nose/throat, respiratory, muscle/bone, skin, immune, cardiovascular, digestive, teeth/gums, urinary, blood, and endocrine. The major differences between the Beaumont/Port Arthur communities and the Galveston community were found in the categories of respiratory and ear/nose/throat symptoms.

The environmental impact statement of Keystone XL indicates that the pipeline would more than likely not affect the overall quality or quantity of crude oil refined in the Gulf Coast region. Thus, the pipeline would not likely affect refinery emissions. While it may not affect the volume of refinery emissions, it will cause major environmental and public health problems for the residents of Port Arthur.

Public Representation of Keystone XL

As with any controversial topic, Keystone XL has gained significant political and media attention. The media has covered the topic extensively, discussing the political actions surrounding the pipeline and the effect of the pipeline on the environment. Politically, the pipeline has been intensely debated. Over 50 lobbying corporations have shown support for the pipeline, totaling over $170 million in lobbying funds. Within the media, a study conducted by Media Matters illustrated that in general, news coverage of the Keystone XL pipeline favored pipeline proponents. The debate surrounding the pipeline was framed as a jobs issue, while the State Department's review process and potential environmental consequences, particularly on minority communities, were overlooked.[5] Lobbyists in favor of the pipeline include a list of familiar names: the U.S. Chamber of Commerce, Business Roundtable, ExxonMobil, and Chevron Corporation, to name a few of the largest spenders. Those against the pipeline include Environment America Inc., Friends Committee on National Legislation, and the EarthJustice Legal Defense Fund. Unsurprisingly, the lobbyists against the pipeline and in favor of protecting the minority communities surrounding it, such as Port Arthur, have been outspent by a 35-to-1 ratio.

Following the trail of money behind the lobbyists leads mainly to large oil conglomerates that stand to benefit from the pipeline, such as the Koch brothers. The Koch brothers have spent more than $50 million to lobby Congress and think tanks that are in favor of the pipeline. In fact, building the Keystone XL pipeline could mean approximately $100 billion in profits for the Koch brothers, given that a Koch Industries subsidiary holds leases on 1.1 million acres in the oil sands region of Alberta, Canada.[6] Considering the small political influence and low socio-economic status of residents of Port Arthur, lobbying efforts and media representation have not focused on how this pipeline will affect the residents of the city. This is largely due to the small political influence and the low socio-economic status of the residents of Port Arthur. Those without the means to make a statement socio-economically have a hard time making a statement politically. The residents of cities such as Port Arthur are an overlooked casualty of the political war that is Keystone XL.

The media coverage of Port Arthur is slim to none. The reports that mention the name of Port Arthur usually identify it with the receiver of the pipeline's benefits, referring to the amount of jobs that are expected with the expansion. While hearings have been held in Port Arthur about the Keystone XL pipeline, media coverage has focused more on the economic stimulation for the large oil refineries in the area rather than the health effects and environmental impacts.[7] Port Arthur residents are already negatively affected by the oil refineries; however, many residents and the general public are unaware of the pipeline expansion's effects on their health, well-being, and surrounding environment.
From the perspective of oil conglomerates and the media, the financial benefits of Keystone XL far outweigh the health risks of residents living near the pipeline. In the end, money outweighs all — "when you appeal to the conscience of man … you can get them to see our point. But a lot of times, the bottom line still wins." Until the bottom line stops driving the politics and lobbying behind Keystone XL, the residents will continue to suffer.

Conclusion and Recommendations

Keystone XL passes through both minority communities and environmentally sensitive areas, culminating in Port Arthur, Texas. Although several alternative routes have been evaluated, the Department of State concluded that the proposed Keystone XL project is the most environmentally protective and economically profitable, and both the federal government and the media are in full support. That being said, the residents of Port Arthur, and other residents living near the route of the pipeline, are paying a price unrecognized by oil corporations — the price of a clean and healthy environment.

Perhaps the best recommendation to lessen the environmental injustice that is strongly present in Port Arthur is to take action at a local level. Affected residents can become empowered through education and awareness. Once community members understand what they are exposed to and how those contaminants can affect their health, they will be more likely to speak up in opposition. One main responsibility of the local industries is to inform their neighbors of vital health information, especially if any emergency spill or leak occurs, and maintain permits and report regularly to the overarching environmental agencies. In addition to protecting the health of citizens, local industries can also help to strengthen the economic vitality of the community by providing training programs and scholarships to young adults to learn trades, along with community enhancement projects.

Ultimately, cities like Port Arthur need to find a way to balance the economic prosperity that comes with Keystone XL (and the oil industry in general) with reduced environmental degradation. As Hilton Kelley points out: "The idea wasn't to keep the [industry] expansion from happening. … I'm not against industry. Industry brings jobs and money here … but the question is: How do we coexist?"

Endnotes

1. TransCanada, "Gulf Coast Project Begins Delivering Crude Oil to Nederland, Texas," January 22, 2014, http://www.gulf-coast-pipeline.com/wp-content/uploads/2014/01/TransCanada-Gulf-Coast-Project-News-Release-2014-01-22.pdf.

2. Exec. Order No. 12898, 3 C.R.R. (1994).

3. Environmental Protection Agency, "Summary of Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice.

4. Matthew Bloch, Shan Carter, and Alan McLean, "Mapping America: Every City, Every Block," *The New York Times*, December 13, 2010, http://projects.nytimes.com/census/2010/explorer.

5., Jill Fitzsimmons and Jocelyn Fong, "STUDY: The Press and the Pipeline," *Media Matters*, January 26, 2012, http://mediamatters.org/research/2012/01/26/study-the-press-and-the-pipeline/186559.

6. Steven Mufson and Juliet Eilperin, "The biggest foreign lease holder in Canada's oil sands isn't Exxon Mobil or Chevron. It's the Koch brothers," *The Washington Post*, March 20, 2014, http://www.washingtonpost.com/blogs/wonkblog/wp/2014/03/20/the-biggest-land-owner-in-canadas-oil-sands-isnt-exxon-mobil-or-conoco-phillips-its-the-koch-brothers/.

7. Kat Herrera, "Keystone XL hearing in Port Arthur," *The Texas Green Report*, October 5, 2011, http://texasgreenreport.wordpress.com/2011/10/05/keystone-xl-hearing-in-port-arthur/.

References

"2012 International Energy Statistics: Petroleum Production and Consumption." U.S. Energy Information Administration. Accessed February 28, 2014. http://www.eia.gov/cfapps/ipdbproject/IEDIndex3.cfm?tid=5&pid=57&aid=6.

Bouie, J. "The Democrats' Demographic Dreams." *The American Prospect*, June 24, 2012. http://prospect.org/article/democrats-demographic-dreams.

"Draft Supplemental Environmental Impact Statement." U.S. Department of State, March 2013. http://keystonepipeline-xl.state.gov/documents/organization/205657.pdf.

"Final Environmental Impact Statement." U.S. Department of State, August 26, 2011. http://keystonepipeline-xl.state.gov/archive/dos_docs/feis/index.htm.

Galbraith, K. "Texas Stretch of Keystone XL Pipeline Progressing." *Texas Tribune*, February 27, 2013. http://www.texastribune.org/2013/02/27/keystone-pipeline-construction-continues-texas/.

Gould, K.A. and Lewis, T.L. *Twenty Lessons in Environmental Sociology.* New York: Oxford University Press, 2008.

Hamon, S.S. "Presidential Permitting Authority and the Keystone Pipeline." *Georgetown International Environmental Law Review*, October 5, 2011. http://gielr.wordpress.com/2011/10/05/presidential-permitting-authority-and-the-keystone-pipeline/.

Hampton, S. "Motiva's Oil Refinery Expansion in Port Arthur Nears Completion." *Bizmology*, September 27, 2011. http://bizmology.hoovers.com/2011/09/27/motivas-oil-refinery-expansion-in-port-arthur-nears-completion/.

Hays, K. "Keystone pipeline hearing draws supports, few critics." *Reuters*, September 27, 2011. http://www.reuters.com/article/2011/09/27/us-pipeline-keystone-hearings-idUSTRE78Q02S20110927.

Israel, J. "Supports of Keystone XL Outspend Opponents 35 to 1." *Think Progress*, February 20, 2013. http://thinkprogress.org/climate/2013/02/20/1614831/lobbying-budgets-of-keystone-xl-opponents-exceeded-that-of-supporters-by-more-than-35-to-1/?mobile=nc.

"Keystone XL Pipeline Project." *TransCanada*, July 26, 2012. Accessed March 11, 2013. http://www.transcanada.com/keystone.html.

Khan, H. "The Avenging Angel: Hilton Kelley's Fight to Save His Hometown." *O, The Oprah Magazine*, September 2011. http://www.oprah.com/spirit/Environmental-Activist-Hilton-Kelley-Port-Arthur-Texas.

McCoy, B., Fischbeck, P., and Gerard, D. "How big is big? How often is often? Characterizing Texas petroleum refining upset air emissions." *Atmospheric Environment*, June 2010.

Moore, S. "Massive crowd shows at Keystone XL meeting in Port Arthur." *Beaumont Enterprise*, September 28, 2011. http://www.beaumontenterprise.com/news/article/Massive-crowd-shows-at-Keystone-XL-meeting-in-2190198.php.

Morris, R., Vergin, K., Cho, J., Rappé, M., Carlson, C., and Giovannoni S. "Temporal and spatial response of bacterioplankton linages to annual collective overturn at the Bermuda Atlantic Time-series Study site." *Limnology Oceanography* 50, no. 5 (2005): 1687–1696.

Mufson, S. "In Port Arthur, Tex., refiners await uncertain benefits from Keystone XL pipeline." *The Washington Post*, September 21, 2012. http://articles.washingtonpost.com/2012-09-21/business/35497242_1_keystone-xl-pipeline-proponents-canadian-oil-sands.

"The Impact of Developing the Keystone XL Pipeline Project." The Perryman Group, June 2010. http://www.transcanada.com/docs/Key_Projects/TransCanada_US_Report_06-10-10.pdf.

Prochaska, J., Kelley, H., Linder, S., Sexton, K., Sullivan, J., and Nolen, L. "Health Inequities in Environmental Justice Communities: Relevant Indicators to Reflect a Variety of Health Threats." *International Journal for Equity in Health* 11, no. 7 (2012).

Rohr, M. "Texas town has been defined by oil refineries." *NBC News*, October 23, 2007. http://www.nbcnews.com/id/21420793/ns/us_news-environment/t/texas-town-has-been-defined-oil-refineries/#.UTWnOnzwIrQ.

Sassman, W. "The Grass is Always Greener: Keystone XL, Transboundary Harms, and Guidelines for Cooperative Environmental-Impact Assessment." *Vanderbilt Journal of Transnational Law* 45, no. 5 (2012): 1489–1528.

Sassoon, D. "Koch Brothers Positioned To Be Big Winners If Keystone XL Pipeline Is Approved." *Reuters*, February 10, 2011. http://www.reuters.com/article/2011/02/10/idUS292515702420110210.

Spalding, R. and Hirsh, A. "Risk-Managed Approach for Routing Petroleum Pipelines: Keystone XL Pipeline, Nebraska." *Environmental Science and Technology* 46 (2012): 12754-12758.

"Summary of Executive Order 12898 – Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." *Environmental Protection Agency.* http://www2.epa.gov/laws-regulations/summary-executive-order-12898-federal-actions-address-environmental-justice.

"Texas State and County QuickFacts." U.S. Census Bureau, January 10, 2013. http://quickfacts.census.gov/qfd/states/48000.html.

Energy Poverty in India: A Case Study of the Sardar Sarovar Dam and Relocation Policies

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Introduction

Millions of people around the world still lack access to modern, clean forms of energy such as electricity. These people instead rely on biomass for their primary energy needs, which increases health risks from indoor air pollution. This disparity in energy sources, termed "energy poverty," has been addressed by both national governments and international aid organizations. However, these efforts often oversimplify the social and environmental impacts associated with combating energy poverty. The shortcomings of large-scale infrastructure programs to address energy poverty — associated with "legibility from above"[1] as explained by James C. Scott — are evident in the case of the Sardar Sarovar dam, in Gujarat, India. The dam's construction brought much controversy, especially from Indian NGOs advocating for rural tribal communities displaced by the dam. Viewed through the perspective of world-systems analysis, the Sardar Sarovar dam provides a concrete case study on the controversies that surround efforts to solve energy poverty.

In November 2011, United Nations Secretary-General Ban Ki-Moon published a vision statement detailing U.N. goals for "Sustainable Energy for All" to address the "urgent and interconnected challenge"[2] of energy poverty by 2030. International organizations, including the World Bank and U.N., believe that the solution to energy poverty can be achieved by bringing electricity to 1.3 billion people around the world through local governments working in tandem with outside parties in business, finance, government and civil society.[3] They add that this effort must be supplemented by a host of new technologies that make access to energy possible in a way that gives free range to areas with underdeveloped infrastructure and is cost-effective for both the producer and the consumer. However, the push for the implementation of technologies to address energy poverty is not without environmental and sociological impacts.

The case of the Sardar Sarovar dam, located in the Gujarat state of India, highlights some of these impacts, including negative changes such as the displacement of people and loss of existing farmland, as well as positive changes such as the creation of new farmland and generation of hydroelectric power. These issues have been caused by oversimplified solutions to energy poverty — such as large infrastructure projects — that fail to consider the impacts that are not legible from above, including the loss of tribal culture.[4] Oversimplification is a key weakness of the implicit ecological modernization perspective held by international organizations. The shortcomings of international organizations in considering social and

cultural impacts cast doubt as to whether electricity for all can be achieved through the current international economic structure. Furthermore, this calls into question whether electricity for all is the answer to energy poverty at all.

Framing Energy Poverty

The discourse used to define energy poverty directs policy decisions but varies depending on the perspective that researchers use to analyze the issue. Folwell defines poverty as "a lack of access to resources and denial of opportunities, which hampers an individual's ability to participate in the lifestyles, activities and customs which define membership in society."[5] Geographer S. Buzar applies Folwell's definition specifically in reference to "domestic energy deprivation,"[6] which considers the distribution of materials and infrastructure enabling energy access. Key to Folwell's definition is the context of society; energy poverty occurs when the distribution of raw materials for energy and energy infrastructure do not meet people's basic needs or allow them to participate in the lifestyle of the society. In contrast to Folwell, World Bank vice president Rachel Kyte refers to energy access as "light[ing] the lamp that lets you do your homework, that keeps heat on in a hospital that lights the small businesses where most people work. Without energy there is no economic growth, there is no dynamism, there is no opportunity."[7] While Kyte includes some societal context, participation in the global economy is identified as the goal for resolving energy poverty, overlooking the local structures that are currently in existence. Kyte is just one of the many global actors addressing unequal access to resources who see the goal of ending energy poverty as enabling economic growth and encouraging business development, which favors incorporation into the global market over existing tribal societies.

Bringing electricity to tribal societies in which a social order has already emerged and developed over the years can be a frightening change that is resisted by the community. Therefore Kyte and other international leaders' plans to address energy poverty can be seen as the forcible integration of communities into the global economy. The financial elements of these changes can also bring resistance. Native tribal peoples' positions are often compromised when the funding of technologies to eliminate energy poverty originates from global sources.

Despite the controversy it may bring the development of an energy infrastructure can provide significant benefits to a society such as improvements in human health. Currently, rural forms of energy, especially flammable biomass such as dung and wood, cause millions of deaths each year — the World Health Organization estimates that over 1.6 million people annually die from indoor air pollution caused by biomass burning.[8] Access to modern energy sources such as electricity would dramatically reduce these health risks.

Eliminating energy poverty would allow for further socio-economic and cultural development by allowing time to be devoted to activities such as education and self-employment. Women and children would not have to spend hours every day gathering firewood and dung, and lighting at night would allow studying and other activities after sunset. Moreover, modern energy access allows institutions such as schools and health clinics to run more efficiently.[9]

India and Energy Poverty

Despite receiving some support from the World Bank and the Global Environmental Fund, the Indian government has undertaken the bulk of attempts to address energy poverty in India.[10] Governmental action in India has mainly centered on rural electrification through proclamations of five-year plans that outline the country's goals and initiatives for development. The intention of these plans is to extend the electrical grid deep into rural areas.

Rural electrification policies in India in the recent context of climate change have increasingly turned to renewable energy sources as a way to provide modern energy and simultaneously address carbon emissions. India's renewable energy policy began as a way to avoid the shocks of the world oil crises in the 1970s and 1980s and to generate energy independence and the expansion of the energy sector.[11] The focus shifted to climate change only recently. As part of its National Action Plan on Climate Change, the government of India has promoted renewable energy power generation in response to international concerns about its carbon emissions. As India is a booming country with the second-largest population in the world, the international community fears that India's expanding population and push into the global market will generate high amounts of carbon emissions that threaten the planet. In response to these concerns, several policy instruments have been developed, including a Ministry of New and Renewable Energy and the Electricity Act, 2003. This legislation created new regulations for State Electricity Regulatory Commissions to promote renewable electricity generation and established a minimum quota of renewably generated electricity for the government to purchase.

Despite such actions, Bhide and Monroy argue that the government of India has set unrealistic goals in reducing energy poverty.[12] Furthermore, Bhattacharya[13] points to the fact that electricity forms a very small portion of the energy mix used by rural Indians affected by energy poverty. Solid fuels, which are generally more polluting, tend to form a larger portion of these peoples' energy consumption. Therefore, rural electrification, even using more renewable sources of electricity, may not be the answer to solving India's energy crisis.

Case Study: The Sardar Sarovar Dam

One case of the Indian government implementing large-scale, top-down infrastructure projects to address energy poverty is the Sardar Sarovar dam. The dam was part of an initiative by the Indian government to irrigate crops, create a larger reservoir of drinking water and provide hydroelectric power by harnessing the power of the Narmada River.

The fifth-longest river in India, the Narmada travels 813 miles from the Madhya Pradesh state to the Arabian Sea. Proposals for the Sardar Sarovar dam began as early as the 1940s, but conflicts between the involved states of Gujarat, Madhya Pradesh, and Maharashtra and later Rajasthan limited planning progress. In 1979, the central government of India created the Narmada Water Disputes Tribunal to move the project forward with mediation between the concerned states. Each state advocated for its needs through the tribunal, which set the initial height of the dam at 455 feet and a timeline for its construction in Gujarat in 1979.[14] Operating

like a court, the Narmada Water Disputes Tribunal heard cases from each state involved but held no public hearings and did not facilitate opportunities for individuals or smaller communities to weigh in on the impact of dam construction.

The institutional structure of the 1980 Forest Conservation Act and India's culture of nonviolent protest and NGO activity slowed the process of dam construction. Inadequate consideration of relocation, habitat loss, and the threat of flooding and damage to forests kept the dam project from receiving authorization for several years. However, in 1983, flooding in Gujarat mobilized the national government to move forward with the dam for the safety of the Gujarat state.[15] NGOs and activist groups fought the change, organizing and advocating on behalf of primarily tribal groups who would be displaced by the dam. These local efforts were respected by the state of Gujarat, which recognized public support for the nonviolent protests.

These protests were focused on advocating for tribal communities, who had little voice in the building of the dam. Tribal people represented two-thirds of those would be displaced by the dam, while they represent only 8 percent of India's population according to the census.[16] The Indian government originally estimated that the number of people displaced by the dam would be only 6,000, counting those in the area of the reservoir. Yet in 1992, when the most recent estimates were taken, it was found that over 40,000 people had been displaced. These figures, however, are widely contested, as international sources claim the true figure is nearer to 80,000 if those displaced by flooding and the creation of the dam itself are included.[17]

While local efforts garnered international attention, though no international funding. The publicity against the dam resulted in the World Bank making a deeper assessment of the environmental sustainability of the project and the treatment of displaced groups. The World Bank gave the Indian government six months to address weaknesses in land compensation policies and environmental impact. The Indian government chose to refuse the World Bank's 10 percent loan and moved forward with the project without World Bank support.[18]

Despite rejecting World Bank funding, the Indian government attempted to address the concerns presented by protesters such as land compensation. India originally followed the British colonial practice of monetary compensation for land,[19] but due to the influence of the NGOs, the government was forced to compensate displaced groups with land for land in Gujarat. These compensation plans also included farmland for subsistence farming. While the NGO advocacy for the dams improved compensation, the program only offered land on a family basis, disturbing the communal nature of tribal lands.

Oversimplification of the social impacts of dam construction and a focus on the water needs of some over the displacement of others characterized the early Narmada Water Disputes Tribunal's decisions. However, institutional and cultural factors forced a revision of policies regarding the dam. In this way, coordinated action by local people proved to be a somewhat successful means of negotiating for their needs. However, due to poor oversight and the lack of clear representation of data on the people displaced by the dam, it is impossible to gauge how many people lost their lands without compensation and how many communities were affected by the abrupt demand to vacate their homeland.

Social Impacts

Hydroelectricity, while a renewable source of energy, has major consequences for society because it requires intense environmental recreation and reshaping to build and maintain the mechanisms of energy generation. The relocation of native peoples, and the social implications of this movement, is a side effect of the building of dams. Relocation occurs before the clearing of trees and all wildlife in order to create an area in which a dam can be built. The required materials and supply roads decimate the surrounding areas outside of the proximity of the dam, and the area for disposing of natural waste requires even more land.[20] The dam's displacement of the societies that have organized themselves around the land is just the first wave of complicated social effects. Relocation carries many more repercussions for affected tribal villages. Some of the less tangible negative effects include "depriving these communities of their history, religion, culture and recognized social order."[21] The Sardar Sarovar Project's (SSP) resettlement policy has made a point of addressing economic needs by providing each displaced family with five acres of land, a housing site and a grant to compensate for the resettlement.[22] While the government has kept their promise to meet these requirements in the majority of cases, focusing on quantitative "reimbursements" has taken a toll on the quality of life for resettled families. Many people have been given land that is not suitable for growing crops or raising livestock, and the amenities that have been provided are not of the same quality as the homes and facilities that they left behind. In many cases, relocated families have had to sell their cattle or simply abandon them because their new homes and land cannot sustain the animals and will not supply them any income as a result.[23] This shift in sources of income has caused communal labor to become virtually nonexistent, since many people must work outside of their communities to make ends meet for their families. Men tend to take care of the family's fields, leaving the women to work on farms in neighboring villages. These societal changes have made it difficult for villagers to come together against the forces subjecting them to poor living conditions.

Additionally, stress and upheaval was caused by the submersion of many sacred river sites along the Narmada as a result of the dam being built up higher and higher. In the words of Kala, "the specificity of their culture that has been nurtured by proximity to the Narmada River and its landscape for generations will be lost."[24] As one of the five holy rivers in India, the Narmada is a source of spiritual connection for many, but the disruption caused by the dam has tarnished the religious significance of the river for many. The previously symbiotic relationship between the villagers and the river has also become strained, as traditional knowledge of the river passed down through generations is no longer applicable since the dams now control the river's flow.[25]

Furthermore, damming can be detrimental for the people who relied on the river as a source of natural irrigation for agriculture, as the flooding and drying of the river no longer depends on the cycles of nature, but rather the quotas for power generation by interested companies. This effectively disrupts agricultural production along the entire river and threatens villages whose welfare is staked on the intentions of energy and water companies.

A more concerning issue is that the government has taken a "divide and conquer" approach in some cases to appease those undergoing resettlement. Officials offer more land if families agree not to campaign against the extended network of dams, and threaten not to give them land if they do join these movements.[26] These problems have arisen from the lack of involvement of affected parties in determining how the relocation process will work and a focus on efficiency as opposed to understanding the way of life that has been disturbed by the SSP.

The reformed resettlement policy that is currently in place, however, has been labeled as one of the best in India, leading to the perception that the SSP's approach is very aware and sensitive to the needs of the people it has affected. Creating a more personalized resettlement plan for the villagers would be much more expensive, but it would address the problem of "involuntary settlement" and increase the displaced peoples' satisfaction and self-reported quality of life.[27] The government still lacks transparency, however, as the website available to answer public concerns about the dam has focused on the benefits and largely omitted or downplayed the cost to the relocated villagers. It states that "against one tribal displaced, seven tribals will get benefits"[28] and highlights the multitude of irrigation and power increases that will result from the completion of the project. This focus on economic growth and modernization has shifted the emphasis away from core community values about religion and knowledge of the river patterns and the environment.

Tribal peoples have essentially become part of the underclass. In the case of Sardar Sarovar, they did not have the opportunity to advocate for themselves. As people without energy in a developing society, they did not have a voice in the initiative to bring energy and water to their area. Tribal people were the collateral damage of this energy initiative, even though the intention of these efforts was that the increased energy capabilities would negate the negative social effects. Globally, the economic value and capital generated by the region increases, but on a local level, the people suffer and their production decreases.

The global south can be represented by people affected by the SSP and other large projects including "large dams, mines, polluting industries … all packaged and publicized as third world aid, while destroying natural resources, traditional knowledge and vibrant communities."[29] The way of life that was enjoyed and embraced is completely disrupted for those who are displaced by these projects and cannot be replaced with plots of land or money. While the SSP may provide irrigation and power for thousands and improve the economic efficiency of one region, it comes at an astronomical price to the traditions and culture of another region.

Environmental Impacts

The dam was built in hopes of increasing hydroelectric power generation as well as irrigation. These benefits have been far outweighed by the negative repercussions of the dam, which include dire environmental consequences — especially the loss of forests and farmlands.

The major area affected by the Sardar Sarovar dam is the reservoir area that was flooded after the dam was built. Close to 40,000 hectares of forests and farmlands have been submerged.[30] By submerging these lands the construction of the dam has taken away not only the homes of villagers but also their livelihoods. Without farmland, the villagers have been left with little choice but to move to the slums of larger cities and live in extreme poverty.

Downstream from the dam, locals who rely on fishing for food and income have seen the number of fish dwindle due to the decline in stream flow and fish being unable to reach spawning locations across the dam.[31]

There has also been an intense disruption of the ecosystems around the river, as it is part of a delicate balance that has relied on natural cycles of flooding. These impacts, such as changes in the speciation around the dam, can be attributed in part to the destruction of specific niches to clear forests for the reservoir. Animals that once lived with tribal villagers have been flooded out of homes, becoming relocated themselves. With ecosystems destroyed, niche competition increases, depleting available resources.

The waste generated by the dam project also poses a distinct environmental threat. The thousands of tons of concrete used to build the dam require hundreds of thousands of gallons of water and generate wastewater, which is either dumped into the river or disposed of at nearby sites, exacerbating the environmental degradation caused by the dam.[32]

World-System Analysis

Under world-systems theory, social, political and economic trends are all related. Because of this, as the economy prospers, the numerous displaced villages near the Narmada are subjected to social and political vulnerability. Their community structure is altered because of the decreased availability of natural resources in their new homes; income must come from a different source and family members' roles must change to fit into their new community. Their relationship with political structures in place is strained because of the lack of communication between the affected and those in power. While the relocation policies may provide monetary reimbursement and land in exchange for moving communities, they often result in "refugee camps, without farmlands, without access to transport or markets, without schools ... [that] pass as resettlement sites and minimum survival becomes the new standard for rehabilitation."[33] Simply checking off a box to comply with the "visibility from above" that is expected from large modernization projects is not enough to give the resettled villagers a satisfactory quality of life. Without proper attention to the needs of relocated communities, the Indian government places the needs of its people below the economic goals of the country. This gravely endangers the people with little clout in politics, like the many communities that have been moved because of the SSP. Already, they have had little say in their fate once their homes are determined as areas necessary for the enlargement of the dam. Their lack of agency signals a disadvantage when fighting for landowner rights and adequate amenities once relocation occurs. This makes them especially vulnerable to large projects like the SSP since their voices are not likely to be heard and are dwarfed by the economic potential for the country overall.

In this way, political and social control is relinquished when expansive hydroelectric projects are developed. By agreeing to relocate, tribes lose their autonomy and their rights to the land. After the dams are developed, the energy produced by the land becomes an economic commodity tied to the global system. By giving the land economic value, tribes lose their cultural and social ties to it. As evidenced in case studies in many developing countries, "mechanisms like legitimacy, legalization, responsiveness and the use of horizontal coercion determine levels of compliance, not the existence of a political hierarchy or a legitimate monopoly."[34]

When relocated, tribes lose their political autonomy, which is replaced by the interests of corporations and governments without original ties to the tribes, thus threatening the sanctity of the society of the tribes themselves. According to Breitmeier, Young and Zurn, "Regimes are social institutions created to respond to the demand for governance relating to specific issues arising in a social setting that is anarchical in the sense that it lacks a centralized public authority or government in the ordinary meaning of the term."[35] In the case of the tribes around the area of Sardar Sarovar, the respected regimes become the powers foreign to the area that replace the leadership hierarchy that naturally existed.

The study of Sardar Sarovar provides an explanation of the way that energy poverty defines the lives of people in developing countries and how development efforts can force people into global political, social and economic systems. This can be summarized by the following observation on the introduction of new energy and technology into the global south: "[D]evelopment was intended to change backward and traditional societies into modern societies; however, much official development has led to great inequality between the global north and global south, and many nations that started out poor are now poorer and further in debt and have less control over their choices."[36]

Conclusions

Current governmental action to address energy poverty may suffer from "legibility from above" as described by Scott.[37] In an attempt to meet its development goals while simultaneously answering to international pressures to curb its country's carbon emissions, the government of India may be oversimplifying the effects of combating energy poverty. The Sardar Sarovar dam is India's largest hydroelectric and water project, representing the interests of both the government and large corporations to bring energy to all of rural India. Ailawadi and Bhattacharya[38] make the argument that a bottom-up approach that takes into account local governance and viewpoints may offer a better solution to this problem. In short, although rural electrification is a step in the right direction to reduce energy poverty, the social dynamics and structures must be considered in adopting electricity as an energy source.

Endnotes

1. James C. Scott, *Seeing Like A State: How Certain Schemes To Improve The Human Condition Have Failed* (New Haven: Yale University Press, 1998). "Legibility from above" implies that for a state to exercise its power across a large population, it must simplify, codify and regularize local practices, in order to make them "legible."

2. Ban Ki-Moon, "Sustainable Energy For All," statement released November 2011, http://www.un.org/wcm/webdav/site/sustainableenergyforall/shared/Documents/SG_Sustainable_Energy_for_All_vision_final_clean.pdf.

3. Ibid.

4. Scott, *Seeing Like A State*.

5. Stefan Buzar, "The 'hidden' geographies of energy poverty in post-socialism: Between institutions and households," *Geoforum* 38, no. 2 (2007): 224–240.

6. Ibid.

7. Marianne Lavelle, "Five Surprising Facts About Energy Poverty," *National Geographic*, May 29, 2013, http://news.nationalgeographic.com/news/energy/2013/05/130529-surprising-facts-about-energy-poverty/.

8. World Health Organization, "Indoor air pollution and household energy," accessed November 20, 2013, http://www.who.int/heli/risks/indoorair/indoorair/en/.

9. Anjali Bhide and Carlos Rodriguez Monroy, "Energy poverty: A special focus on energy poverty in India and renewable energy technologies," *Renewable and Sustainable Energy Reviews* 15, no. 2 (2011): 1057–1066, http://dx.doi.org.ezproxy.rice.edu/10.1016/j.rser.2010.11.044.

10. Aparna Sawnhey, *The New Face of Environmental Management in India* (Burlington, Vermont: Ashgate Publishing Limited, 2004).

11. Ibid.

12. Bhide and Monroy, "Energy poverty."

13. Subhes C. Bhattacharyya, "Energy access problem of the poor in India: Is rural electrification a remedy?" Energy Policy 34 (2006): 3387–3397.

14. M.J. Peterson, "Narmada Dams Controversy," International Dimensions of Ethics Education in Science and Engineering, 2010, 1-26, http://www.umass.edu/sts/ethics/narmada.html.

15. Peterson, Kiratli, and Ercan, "Narmada Dams Controversy."

16. Sawnhey, *The New Face*.

17. Supriya Garikipati, "Resettlement Sites of Narmada Valley Project: Some Revealing Insights," *Economic and Political Weekly* 37, no. 23 (2002): 2257–2266, http://www.jstor.org/stable/4412219.

18. Peterson, Kiratli, and Ercan, "Narmada Dams Controversy."

19. Peterson, Kiratli, and Ercan, "Narmada Dams Controversy."

20. *Narmada diary* [documentary film], directed by Anand Patwardhan (India: First Run/Icarus Films, 1995).

21. Brett O'Bannon, "The Narmada River Project: Toward a Feminist Model of Women in Development," *Policy Sciences* 27 (1994): 247¬–267.

22. Garikipati, "Resettlement Sites."

23. Ibid.

24. Pablo Kala, "In the Spaces of Erasure: Globalisation, Resistance and Narmada River," *Economic and Political Weekly* 36, no. 22 (2001): 1991–2002.

25. Ibid.

26. L.S. Aravinda, "Globalisation and Narmada People's Struggle," *Economic and Political Weekly* 35, no. 46 (2000P): 4002–4005.

27. Garikipati, "Resettlement Sites."

28. Venus Upadhayaya, "In The Shadow Of India's Largest Dam," *Epoch Times*, February 7, 2012, http://www.theepochtimes.com/n2/world/in-the-shadow-of-indias-largest-dam-187779.html.

29. Aravinda, "Globalisation and Narmada People's Struggle."

30. Department of Environment and Forests, "Environmental Aspects of Narmada Sagar and Sardar Sarovar Muli-purpose Projects" (New Delhi: Government of India, Department of Environment and Forests, 1987).

31. Patrick McCully, *Silenced Rivers: The Ecology and Politics of Large Dams* (London: Zed Books, 2001).

32. *Narmada diary*.

33. Aravinda, "Globalisation and Narmada People's Struggle."

34. Helmut Breitmeier, Oran R. Young, and Michael Zürn, *Analyzing International Environmental Regimes* (Cambridge, Massachusetts: MIT Press, 2006).

35. Ibid.

36. Tammy Lewis, "Environmental Movements in the Global South," in *Twenty lessons in environmental sociology*, ed. Kenneth A. Gould and Tammy Lewis (New York, NY: Oxford University Press, 2008).

37. Scott, *Seeing Like A State*.

38. V.S. Ailawadi and Subhes C. Bhattacharyya, "Access to energy services by the poor in India: Current situation and need for alternative strategies," Natural Resources Forum 30 (2006): 2–14, http://www.aseanenergy.info/Abstract/31030444.pdf.

References

Biro, Andrew. *Denaturalizing Ecological Politics*. Toronto: University of Toronto Press, 2005.

Cullet, Philippe. "Sardar Sarovar Judgment and Human Rights." *Economic & Political Weekly* 36, no. 18 (2001): 1,503–1,504.

Dahiya, Pushpa and Manisha Ahlawat. *Environmental Science: A New Approach*. Oxford: Alpha Science International Press, 2013.

Flood, Laurie Uytterlinde. "Sardar Sarovar Dam: A Case Study of Development-induced Environmental Displacement." *Refuge* 16, no. 3 (1997): 12–17.

Hayward, Tim. *Ecological Thought*. Cambridge: Polity Press, 1995.

House-Soremekun, Bessie and Toyin Falola, eds. *Globalization and Sustainable Development in Africa. Rochester*, NY: University of Rochester Press, 2011.

International Energy Agency. *World Energy Outlook*. Paris: OECD/IEA, 2009.

Khandker, Shahidur R., Douglas F. Barnes, and Hussain A. Samad. *Energy Poverty in Rural and Urban India: Are the Energy Poor Also Income Poor?* World Bank Policy Research Working Paper no. 5463. Washington, DC: World Bank, 2010.

Parasuraman, S., Gomathy Balasubramanian, and Himanshu Upadhyaya. "Sardar Sarovar Project: The War Of Attrition." *Economic And Political Weekly* 45, no. 5 (2010): 39–48.

"Withdraw from Sardar Sarovar, Now: An Open Letter to Mr. Lewis T. Preston, President of the World Bank." *The Ecologist* 22, no. 5 (1992): 218–220.

Mexican Energy Reform and Its Possible Outcomes

by Travis Roberts '15

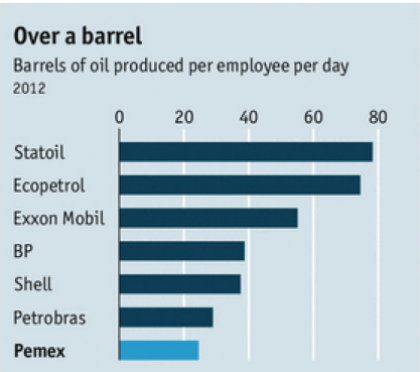
Introduction

On Dec. 11, 2013, Mexico's government passed legislation to amend their constitution and implement semicomprehensive energy reform. The reform was primarily targeted towards the state-owned monopolistic oil company Petróleos Mexicanos, also known as Pemex.[1] This highly contested legislation is sure to leave a significant impact on the country. The purpose of this paper is to analyze the pros and cons of this bill and predict its implications for Mexico on a macroeconomic scale in the short- to long-term future.

A Desperately Needed Reform

The energy reform legislation totaled 296 pages in length. Significant information was provided in order to support the bill's main purpose — reform of Pemex — as well as other secondary reforms to the power generation sector. Prior to Dec. 11, Pemex held full control of the oil and gas industry in Mexico. The industry engaged in some contract work with international service companies; however, the majority of the industry was solely controlled by Pemex.[2] Until recently, this state-owned monopoly had stayed on the government's good side. This is despite accusations of corruption, back-breaking unions and poor senior management. One of the problems that the monopoly faces is the strength of the labor unions, which restrict Pemex from firing superfluous employees who are working on uneconomic wells.[3] This problem is illustrated in the table below, which compares the number of barrels of oil produced per employee per day among major oil companies both publicly traded and state-owned.

Figure 1.

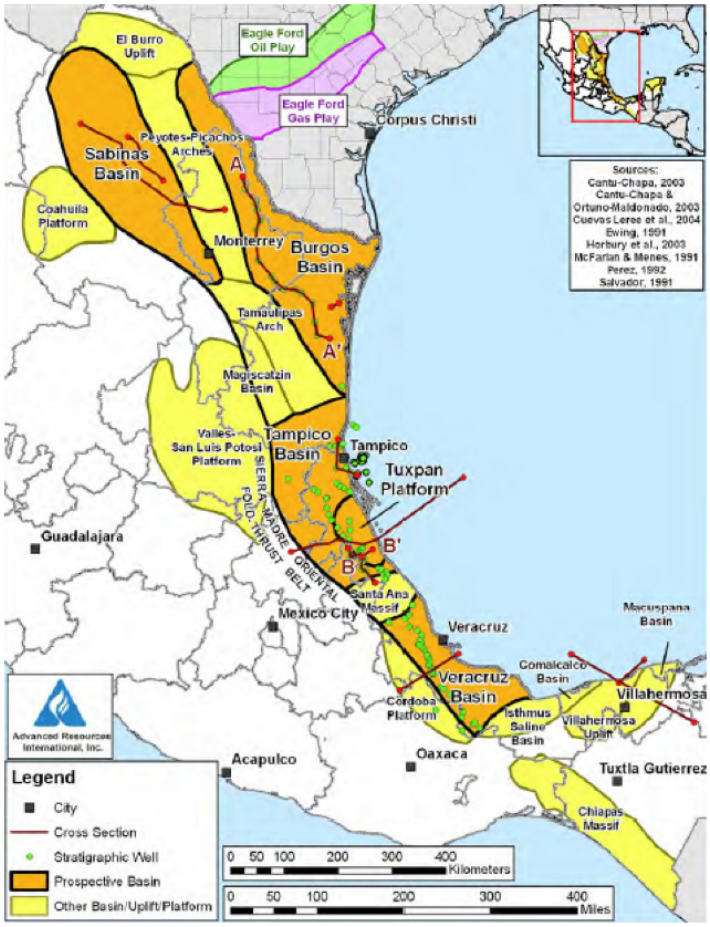


Source: The Economist

Since 2004, Mexico's yearly petroleum production has declined by just slightly less than 24 percent.[4] Pemex's recent poor performance, in combination with its structural problems, is a major reason why many analysts and government officials are so hopeful for the success of this energy reform bill. President Enrique Peña Nieto himself said he believes this reform will bring in tens of billions of dollars into Mexico's declining oil and gas industry.[5] Such an influx of capital is sure to have some sort of effect on Mexico, whether that is an appreciation of the peso, dramatically lower energy prices or anything in between.

The previous situation in Mexico has kept foreign petroleum companies from operating in the oil and gas sector. By excluding companies such as Shell, Exxon and BP, Mexico has prevented itself from keeping up with the shale and deepwater hydrocarbon revolutions taking place in North America.[6] Pemex's lack of human capital and technological know-how has resulted in billions of dollars wasted on unsuccessful wells.[7] This poor knowledge base has also crimped the monopoly from replacing its dwindling petroleum reserves, which are highly coveted by developed nations. Below is an illustration of several untapped shale basins in Mexico that may contain several trillion cubic feet of natural gas.

Figure 2. Shale Basins in Mexico



Source: EIA

President Nieto's lengthy piece of government policy could change Mexico's petroleum industry for the better. A major objective of the energy reform is to reverse this decline and re-energize the Mexican petroleum industry. It aims to accomplish this by opening up the exploration and production sector to foreign companies by allowing them to enter into "contracts" or partnerships with Pemex.[8] What is expected to happen is that Pemex will own the reserves, but other companies will receive a certain portion of the produced hydrocarbons, depending on how the contract is structured. This allows Mexico to receive the benefits of outside capital and expertise while still maintaining the nationalized oil company. Although this is not a comprehensive reform that privatizes the country's oil and gas industry, it is a major step that has opened up huge opportunities for both Mexico and foreign investors.

Possible Beneficial Effects of Energy Reform

The potential benefits of this reform are considerable. After being blocked for 75 years from entering the Mexican petroleum industry, companies and investors alike are excited about the opportunity for future investment.[9] There is a multitude of projects that will require billions of dollars of capital in total. Given the attractive rates of return that oil exploration and production projects usually offer, it can be concluded that in the long term there will be large inward flow of foreign direct investment into Mexico. As many economists know, if properly managed, inward FDI can result in positive economic growth. In their study, Kornecki and Raghavan found that inward FDI was a major contributor to economic development in certain central and eastern European countries.[10] In the following table, their data shows that FDI contributed a 55 percent share of the GDP growth in the selected countries. The same concept can be extrapolated to Mexico's prospects. Below is a table that exhibits how meaningful FDI was to the selected European countries.

Figure 3. Sources of Economic Growth in Central and Eastern Europe (1993–2003)

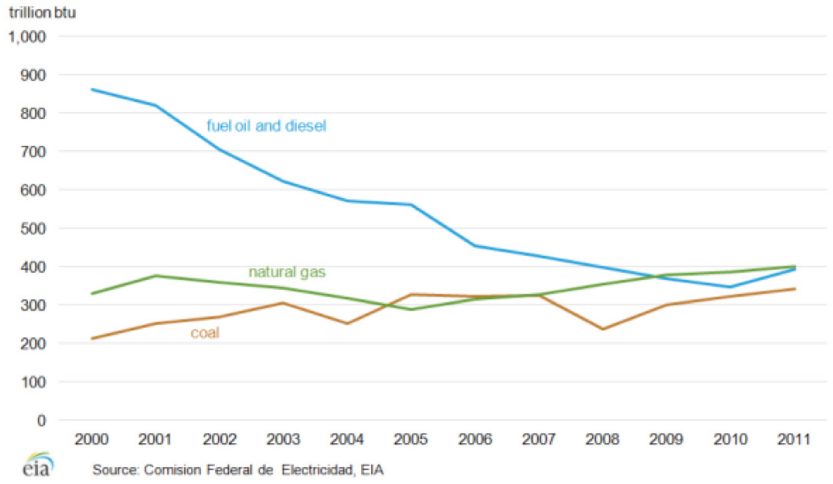
	Growth Rate[a]	Share	Average Growth Rate[b]
Factors of Production			
Capital	1.03%	11%	8.00%
Labor	2.61%	27%	4.00%
Productivity Change			
Export	0.67%	7%	13.0%
FDI	5.18%	55%	30.3%
Total (GDP)	9.48%	100%	

Sources: UNECE Statistical Database and UNCTAD World Investment Report 2006.
[a]The numbers of this column are obtained by multiplying the estimated elasticities by the average rate of growth of the factors concerned.
[b]Average values of various variables (Mean values).

As capital enters the country in the form of investments; wages and employment would likely rise.[11] If these benefits are realized, they would result in a positive impact on GDP growth in Mexico. So long as there is not a dramatic increase in wage disparity, the positive political effects could be sizable.

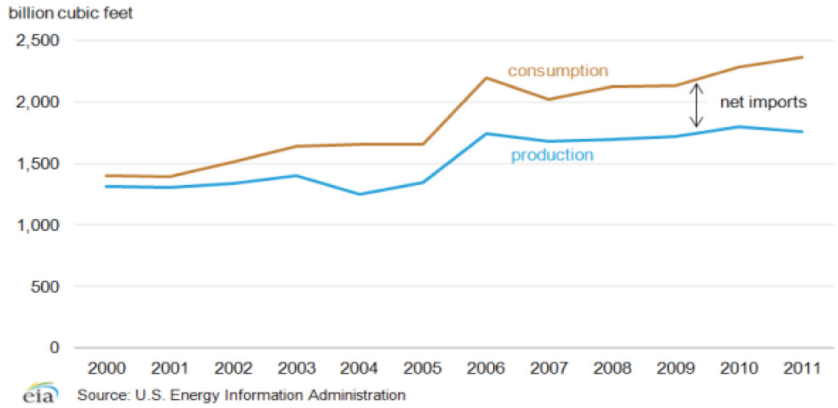
An inflow of FDI is not the only major benefit Mexico could see from this reform. As previously mentioned, Pemex lacks the knowledge to successfully explore, develop and produce hydrocarbons from unconventional plays. This shortcoming has not only cost them billions of dollars and produced little to no results, but it has also hurt other Mexican industries and consumers. Currently, Mexico has the eighth-highest electricity costs out of all 34 members of the OECD.[12] Industrial companies in Mexico pay approximately twice as much for electricity as their American counterparts. This situation has an obvious negative effect on Mexico's international competitiveness. If Mexico was able to unlock the potential of its vast gas reserves sitting beneath its surface, it could place a strong downward pressure on electricity prices due to its fleet of natural gas-fired power plants.[13] The image below shows the uptrend in natural gas being used for power generation.

Figure 4. Consumption of Hydrocarbons for Electricity Generation, 2000–2001



With a decrease in energy prices, Mexico would see an increase in competitiveness and a rise in welfare. Not only that, but by unlocking its vast shale gas reserves, it will likely eliminate its growing need for natural gas imports for power generation.

Figure 5. Mexico's Dry Natural Gas Production and Consumption, 2000–2001



A final noteworthy benefit would be the possible rise in royalties and tax revenue collected by the Mexican government.[14] Depending on how contracts are structured and how much hydrocarbon reserves can be developed and produced, Mexico's Department of the Treasury might see a large increase in revenues. These increased revenues could go towards needed investments in infrastructure, education, and military operations aimed at eliminating drug cartels and related violence. Unless new revenues are wasted on consumption (an important caveat), these investments would positively influence both Mexico's civilians and its economy.

Possible Pitfalls and Drawbacks of Energy Reform

In order to accurately predict what such a landmark bill means for Mexico, it is important to assess the risks as well. One of the biggest fears for a developing nation that discovers a new resource endowment, particularly oil, is the "resource curse" or "Dutch disease." Dutch disease occurs when an economy receives a new resource endowment and then neglects other industries such as manufacturing or agriculture by focusing on the newly popular industry.[15] This results in an appreciation of the currency, which decreases the competitiveness of all other industries in the international market. Economically speaking, the dominance of the oil and gas sector and its increased output produces less-than-favorable conditions for national employment and economic diversification. It is understandable to be concerned about this economic risk, as its occurrence has been documented dozens of times and significant research has been conducted that confirms its modern-day existence.[16]

Mexico may not be an Arab Spring country that constantly faces the threat of political revolution, but it can still be a volatile environment at times. With that in mind, it is important to consider risks that could fuel some sort of civil uprising as a result of the recent energy reform. Several studies show that an inward flow of FDI can cause wage disparities between skilled and unskilled workers.[17] Other research shows that the aforementioned wage disparities are caused by skill-biased technological change.[18] This may present a significant cause for concern, considering the technology transfers that Pemex is likely to receive from partnerships with experienced foreign companies. If major disparities were to occur, the result could be civilian and political unrest, as income gaps tends to be an explosive topic.

One of the previously mentioned benefits discussed the idea of cheaper energy costs for industrial businesses and consumers alike. However, it's possible that costs may not fall in the wake of increased hydrocarbon production. Two barriers that stand in the way of this are extreme inefficiencies in Pemex's downstream refining business and a lack of sufficient infrastructure for transporting crude and natural gas to refineries and power plants. Refining is typically seen as a terrible business with low prospects, and furthermore, Pemex's downstream business suffers from the same outsized payrolls and poor management decisions that its other segments face.[19] Combine that with the loss-leader business of petroleum refining, and the result is a serious drag on a company's profitability. This threat is not as significant a problem for Mexico because the country does not possess an ample amount of infrastructure to transport crude and, more importantly, natural gas.

If sufficient pipelines are not in place or built, then the natural gas will not be able to reach the power plants. Instead, it would likely be flared as it is in the Bakken in North Dakota due to the lack of transportation options.[20] Such transportation constraints would not allow for a sizable amount of downward pressure on electricity prices, as natural gas will not be appreciably cheaper for gas-fired power plants.

What Comes Next?

It depends. If everything goes well and both the leadership of Pemex and the government are able to manage the situation correctly, then Mexico could become significantly better off because of the energy reform. Contrasting that optimism, if poor decisions are made, Mexico could end up in a difficult position economically and politically.

Together, Pemex and President Enrique Peña Nieto's government have significant tasks that lie ahead in order for this energy reform to be as beneficial to this developing nation as many are hoping. Pemex has three major objectives that it must accomplish in order to have overall success. First, it must carefully structure its contracts in order to gain profitable, long-term partnerships. From these partnerships, it should strive to gain as much knowledge as possible from such experienced companies as Exxon. A lesson can be learned from the Chinese, who have been purchasing American oil and gas companies over the last few years in order to obtain the knowledge and technology necessary to successfully explore and produce unconventional plays. Second, it needs to invest and encourage others to invest in transportation infrastructure, such as pipelines, so that the full benefits of a new energy revolution can be realized. Finally, Pemex needs to fix its many structural problems. It is difficult to thrive in such a volatile business when the company is plagued by shoddy management and other defects.

The Mexican government also has three hurdles that it needs to clear in order to prove that this energy reform is in Mexico's best interest. To start, it needs to support Pemex in its three objectives, especially with mending its troubles. Most of Pemex's leadership is appointed by the government; therefore, the government needs to select better candidates with more experience. Next, it should establish some sort of oil fund in order to avoid a tremendous current account increase and a subsequent currency appreciation. Norway is a prime example of how to successfully save and invest a portion of the proceeds from petroleum exports. If this objective is completed properly, then many of the risks of this energy reform, such as a drastic currency appreciation, can be mitigated. Lastly, the Mexican government needs to continue to invest in other sectors and carefully monitor signs of encroaching Dutch disease. If other industries start to become highly uncompetitive or unattractive, the government should consider providing some form of assistance to the ailing industry. If the government accomplishes all three of these goals, the prospects for energy reform will be bright, which would allow President Nieto to continue on his reform campaign and change Mexico for the better.

Conclusion

Some view Mexico's energy reform as a brighter future for Mexico and its petroleum industry, while others view it as treason and a bearer of dreadful things to come. Much now depends on the actions of both Pemex and the Mexican government. If they fail, it will lead to their own misfortune; if they succeed, President Nieto will be viewed as one of the greatest leaders in the history of developing nations. It is certain that mistakes will be made in implementing the energy reform, but for Mexico, it's still a move in the right direction.

Endnotes

1. "Mexico Energy Reform: News and Commentary on Mexican Energy," Mayer Brown, accessed June 23, 2014, http://www.mayerbrown.com/mexico-energy-reform/.

2. Jordan Blum, "Pemex eager to partner with Houston companies," *Houston Business Journal*, March 14, 2014.

3. Diana Villers Negroponte, "Mexico's Most Critical Challenge: Energy Reform," *The Brookings Institution*, November 20, 2013, http://www.brookings.edu/research/opinions/2013/11/20-questions-about-energy-reform-mexico-negroponte.

4. "Mexico," U.S. Energy Information Administration, accessed October 12, 2012, http://www.eia.gov/countries/country-data.cfm?fips=MX.

5. Juan Montes and Laurence Iliff, "Mexico Outlines New Oil Sector Policies for Private Firms," *The Wall Street Journal*, May 1, 2014.

6. Los Ramones, "Mexico's prospective shale boom will be a long time coming," *The Economist*, May 3, 2014.

7. "Mexico's Oil Industry - Unfixable Pemex," *The Economist*, August 20, 2013, http://www.economist.com/news/business/21583253-even-if-government-plucks-up-courage-reform-it-pemex-will-be-hard-fix-unfixable.

8. E. P. Nieto, "Putting Mexico's Energy Reform in Context," *Stratfor Geopolitical Diary*, 2013.

9. "Mexico cites major interest in oil reform, including from China," *Chicago Tribune*, May 5, 2014.

10. Lucyna Kornecki and Vedapuri Raghavan, "Inward FDI Stock and Growth in Central and Eastern Europe," *Review of Economics & Finance* 1 (2011): 19–30, 18.

11. Munisamy Gopinath and Weiyan Chen, "Foreign direct investment and wages: a cross-country analysis," *Journal of International Trade & Economic Development* 12, no. 3 (2003): 285–309.

12. "Mexico," U.S. Energy Information Administration, accessed October 12, 2012, http://www.eia.gov/countries/country-data.cfm?fips=MX.

13. Adams Critchley, "Mexico must increase shale gas production to lower electricity costs - Pemex CEO," *BN Americas*, December 17, 2013.

14. "Mexico's Oil and Gas Sector: Background, Reform Efforts, and Implications for the United States," Congressional Research Service, January 6, 2014, http://fas.org/sgp/crs/row/R43313.pdf.

15. Cosimo Beverelli, Salvatore Dell'Erba, and Nadia Rocha, "Dutch disease revisited: Oil discoveries and movements of the real exchange rate when manufacturing is resource-intensive," *International Economics and Economic Policy* 8, no. 2 (2011): 139–153.

16. S. Gazioglou and W.D. McCausland, "The Costs of Inward Direct Investment to Developing Countries," *Applied Economics Letters* 9, no. 8 (2002): 505–510.

17. Kornecki and Raghavan, "Inward FDI Stock and Growth in Central and Eastern Europe."

18. Akinori Tomohara and Kazuhiko Yokota, "Foreign Direct Investment and Wage Inequality: Is Skill Upgrading the Culprit?" *Applied Economics Letters* 18, no. 8 (2011): 773–781.

19. Paul Collier, P. "Under Pressure," *International Monetary Fund Finance & Development* 50, no. 4 (2013): http://www.imf.org/external/pubs/ft/fandd/2013/12/collier.htm.

20. "Bakken achievements meet infrastructure constraints," Independent Petroleum Association of America, accessed June 23, 2014, http://oilindependents.org/bakken-achievements-meet-infrastructure-constraints/.

References

Bissinger, Jared. 2012. "Foreign Investment in Myanmar: A Resource Boom but a Development Bust?" *Contemporary Southeast Asia: A Journal of International and Strategic Affairs* 34 (1): 23–52.

Fabrizio, Kira R. 2013. "The Effect of Regulatory Uncertainty on Investment: Evidence from Renewable Energy Generation." *Journal of Law, Economics, and Organization* 29 (4): 765–798.

International Monetary Fund (IMF). 2013. "Coordinated Direct Investment Survey." http://cdis.imf.org/.

Qi, Liangshu. 2007. "The Relationship between Growth, Total Investment and Inward FDI: Evidence from Time Series Data." *International Review of Applied Economics* 21 (1): 119–133.

Trading Economics. 2013. "Mexico Balance of Trade." Accessed December 12. http://www.tradingeconomics.com/mexico/balance-of-trade.

Trevino, Len Jay, John D. Daniels, Harvey Arbelaez, and Kamal P. Upadhyaya. 2002. "Market Reform and Foreign Direct Investment in Latin America: Evidence from an Error Correction Model." *The International Trade Journal*, 16 (4): 367–392.

Wile, Rob. 2013. "Mexico Just Made A Historic Change To Its Energy Policy — Here's Why It Might Not Matter." *Business Insider*, December 14. http://www.businessinsider.com/mexico-energy-reform-reaction-2013-12.

Education Inequality in Global Cities

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Introduction

Despite being a vehicle for socioeconomic mobility, education in the cities of Istanbul and Buenos Aires fails to act as a social equalizer. Quality education in both cities exists as an exclusive commodity, with educational opportunity and socioeconomic advancement being closely tied to income. These opportunities, regardless of policy, have been inherited across generations. High-income households in Istanbul and Buenos Aires continue to seek superior education as a means of passing on economic privilege. While the educational policies for Istanbul and Buenos Aires are similar in their exclusivity, they are, in theory, quite different.

Turkey's current educational system developed as a method of creating an educated militia, a secular population and a proud citizenry. All students in Istanbul have equal access to schooling, and the vast majority of students attend public schools. However, affluent students have many advantages over those of lower income through various factors, mainly private tutoring. Thus, students from higher-income households are more likely to achieve higher levels of education.

In Argentina, the divide in education exists not from exclusive tutoring, but instead from disparity between private and public schooling. Higher-performing private schools are more costly, and enrollment in these institutions is limited to students from high-income households. Students from lower-income households enroll in overcrowded public schools and face many more education limitations.

This report analyzes the correlations that exist between income level and educational outcomes. Though the policies of the cities differ greatly, they have both led to exclusive educational systems that benefit the wealthy. This paper will begin with an introduction to each city's educational systems. We will then present case studies of wealthy and poor neighborhoods in Istanbul to see how income levels affect the levels of education achieved. Finally, this paper will present similar studies of wealthy and poor *comunas* in Buenos Aires. We will conclude with an analysis of each city and provide policy recommendations for improvement.

Istanbul: Background

Significant Governmental Policies in Education

Education in the Turkish Republic was originally intended "to bring up good citizens who can adapt into their surroundings."[1] Education's fundamental principle in Turkey is to create an educated class for the benefit of the nation's well being. This guiding principle has been observed throughout the Turkish curriculum over the years despite many significant curricular revisions. The last such curricular movement, in 2004, follows in a long line of retooling the national education system; 18 curricular changes were made between 1924 and 2012.[2] Some of these revisions have dealt solely with course topics, especially reforms before the 1960s, which sought to maintain the quality of education that promoted a national character. The 1968 curriculum is one of the most significant changes, increasing the number of years students must attend primary school from five to eight. Reforms before 2004 were met with middling results, as viewed by the international community. The reforms of 2012 increased the number of years a student is required to attended school from eight to 12.

The 2004 reform was introduced as part of Turkey's push for membership in the European Union and highlights many policies that worked to make Turkey enticing. These reforms tried to reconcile the centralized tendencies of Turkey with the Western style of more decentralization and focused on top-down changes rather than allowing greater teacher autonomy. The centralized focus of the education system in Turkey means our study must focus more on the directives and policies given by the national government.

Acceptance into select Turkish high schools and all Turkish universities is based on student achievements on a nationally distributed test. This system, run through the Student Selection and Placement Center, is a one-stage examination. Students that have finished high school can attend a university; however, this test is used as an entrance exam, and there is a minimum score to attend more prestigious and selective institutions. The test focuses on verbal, language, reasoning and mathematical skills. Similarly, students in sixth, seventh and eighth grades take examinations to determine what type of high school they can attend, from the more prestigious Anatolian High School to a general knowledge high school.[3] The constitution requires that the state provide free education at all levels, and if students get into a highly regarded public school, they attend for free. There are three types of higher education in Turkey: universities, vocational schools and military/police academies. There are 94 public universities and 45 private, collectively serving 2.5 million students.

Private Tutoring in Turkey

In many countries, parents choose to take advantage of private schools that provide more resources, better teachers and more personalized instruction. However, in Turkey parents who are able to choose to pass on their advantages to their children by hiring private tutors and sending their children to tutoring centers. These tutors are hired primarily to assist on entrance exams.

Three types of private tutoring exist in Turkey: individual tutoring by parents, after-school tutoring with teachers and private tutoring centers, known as *Dersane*. Private tutoring

increased after the introduction of the college admission exam. In 1984, the country formally recognized tutoring as a part of educational activities by passing a series of laws designed to govern it. The Ministry of National Education oversees all private tutoring centers. The centers also have their own association — OZDEBIR, or the Private Tutoring Centers Association — to help coordinate efforts and lobby on behalf of the industry.[4]

The presence of competitive entrance exams for both selective high schools and universities along with the limited number of slots in the college system drives families to invest in private tutoring. The demand so greatly exceeds supply that only about a third of high school seniors who take the countrywide university placement exam receives a spot at a university.[5] This is in part by design, as the entrance exam was originally introduced to prevent over-enrollment in colleges and universities.

As of 2001, 35 percent of high school seniors attended a private tutoring center to help them prepare for the entrance exams.[6] For years, that exam was the sole determinant of college admission. Some students would begin to skip their formal high school education to instead focus entirely on preparation for the exam, often with the help of tutors, leaving only low-income students attending school. Now, GPA is factored into university admission to ensure all students continue attending school and to decrease educational division. The "shadow" education system rivals the formal one; in 2002, total private tutoring expenditures were $263 million or 1.44 percent of the nation's GDP (total public education expenditures is 2 percent).[7] Additionally, as of 2002 there were 2,100 private tutoring centers as compared with 2,500 high schools, and these figures do not even account for private tutors who work with students at their home.[8]

Given its importance, many families choose to spend large portions of their budget on private tutoring. Unfortunately, a complete course at a private tutoring center puts a high financial burden on many Turkish families. Seven to 13 percent of families spend between 20 and 50 percent of their monthly income on private tutoring. Seventy-three percent of the expenditures are from the top 20 percent of households.[9] There is a divide between rural and urban areas as well; those in urban areas spend an average of 66 percent more on private tutoring.[10]

The private tutoring system provides an avenue for socioeconomically advantaged parents to pass on that advantage to their children by guaranteeing them a post-secondary education. While it is true that — with the exception of the few that go to selective high schools — almost every child gets the same publicly provided education, the private tutoring system creates a distinction between the education available to those with means and those without.

Buenos Aires: Background

Public and Private Education in Argentine History

In recent decades, private education has offered higher quality education and has catered to economically advantaged Argentines. Instead of improving state schools, some state subsidies have gone toward private schools because of the large population of Argentinean students

enrolled in private schools. Some schools receive direct subsidies that reduce the fees paid by students.[11] In the 1990s, the Argentine state made efforts to improve public education by implementing a slew of policies aimed at decentralizing the power of the state in education.

Structure of the Buenos Aires School System

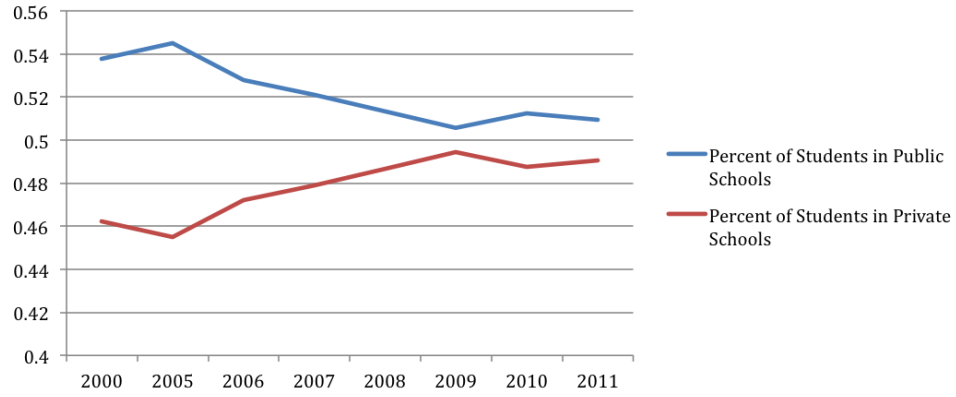
The city of Buenos Aires today is divided into 21 school districts. These districts are administrative, with decision-making power held at more central levels. The city of Buenos Aires serves the functions of both a city and a province. An effort at decentralization within the city led to the creation of 15 *comunas*. The comunas were first envisaged as a way to decentralize authority in the 1996 city constitution, but lines were not drawn until 2005, and it was another six years before there was an actual elected board.[12] Currently, the governments of the comunas serve very limited functions, but it is likely that they will be given more responsibilities as the decentralization process continues. However, the boundaries of the comunas do not follow the boundaries of the school districts, putting the residents of each school district under competing jurisdiction.

Education in Argentina is administered and primarily funded at the provincial level, with the autonomous Buenos Aires City functioning as a province. The 2013 budget for Buenos Aires allocated 10.419 billion pesos (25.7 percent of the city's total budget) to education.[13] Although the school system's budget comes from the city, social programs, such as student scholarships, are nationally funded. The Buenos Aires public schools have over 4.5 times the enrollment of Washington, D.C., public schools, but the schools in Washington, D.C., have a slightly larger budget.[14] Although education is funded and managed locally, the policies of the Buenos Aires Ministry of Education must comply with national standards.

Compulsory education in Argentina was increased from 10 to 13 years in 2006 and requires traditional primary and secondary school.[15] The city of Buenos Aires already mandated 12 years beginning in 2002 in order to encourage secondary schooling and combat the high dropout rate.[16] Buenos Aires continues to exceed the minimum national requirements and offers public nurseries, children's schools and kindergartens before children begin primary school. Students typically begin primary education at age six, although accommodations are made for students that start at an older age.[17] There are both half-day and full-day schools available. Students are also able to choose to attend schools with concentrations in an area of study or attend free after school supplemental courses.[18]

A substantial percentage of students in Buenos Aires, however, attend private schools. The city government plays a larger role in private schools than governments in other cities, likely due to the high enrollment. There is a special department to regulate private schools, and many private schools receive public subsidies in the form of teacher salaries.[19] The subsidies of private schools have been criticized as disproportionately benefiting the middle class instead of the neediest students. Figure 1 provides the percentage of students in Buenos Aires City enrolled in public and private schools for the years 2008-2011.[20] The proportion of students attending private school is even larger when adult education is not counted, increasing to 51.9 percent of students for the year 2011.[21]

Figure 1. Percentage of Public/Private Students in Buenos Aires City



Source: Anuario Estadistico, 2011

One program instituted in Buenos Aires City is *Programa Ciudadano Porteña*. It was created by the 1878 Act of the Legislature of the Autonomous City of Buenos Aires, but was not actually utilized until 2005. Individuals that qualify for the program are given a monthly subsidy through a preloaded card provided by a local bank to be used only for food, personal hygiene products, school supplies and fuel for cooking. In order to benefit from this program, however, several requirements must be met; one of the requirements is that all children between 5 and 18 years of age living in the household must have proof of school attendance. Any breach of contract will result in partial or full suspension of benefits.[22]

Case Studies

Although Istanbul and Buenos Aires have many similarities, their structural differences made it difficult to find data about comparable units. While Argentina is more decentralized and Buenos Aires is divided into comunas, Turkey is more centralized and Istanbul is divided into districts. We decided it would be more meaningful to examine case studies of higher income and lower income areas within each city. These case studies will show the difference in schools and private education resources available between affluent and less affluent regions. We will use our case studies to compare the way income affects access to quality education in Istanbul and Buenos Aires.

Istanbul Case Studies

With a population of close to 13 million people and 39 unique districts, the city of Istanbul is one of the most diverse places in the world. With this diversity, however, comes inequality — many times in the form of educational inequality. In order to examine these disparities more closely, we have chosen two districts in the city to review: Besiktas and Esenler. These districts display different income levels, with Besiktas topping the list of the highest income districts.[23] On the other hand, Esenler ranks as the lowest income district in the city.[24]

Each of these case studies will give a general background of the district and then provide information at district-wide and school-specific levels. At the district-wide level, we have collected data from each of the district directorates of education. Furthermore, we utilize Address Based Population Registration System (ABPRS) database results collected by the Turkish Statistical Institute to look at district-wide educational attainment. At the school-specific level, we utilize information on school websites that describes the structure of the school along with some statistics on its students.

Student-teacher ratio has been proven to be a significant factor in student achievement.[25] As a result, this will be the statistic used to illustrate the differences among districts with relation to educational opportunities. One major limitation in our analysis was the lack of information on graduation rates at a district- or neighborhood-wide level. However, with the information and data that we collected, we are able to draw comparisons among the districts.

High-Income District: Besiktas

Located on the European shore of the Bosphorus, Besiktas is home to historical areas in Istanbul, including Dolmabahce Palace, Bogazici University in the historic Bebek neighborhood and Ortakoy neighborhood. This district has grown over the years, with a population of 186,067 in 2012.[26]

Schools and educational institutions in Besiktas number at 221. Table 1 provides the number of classrooms, students, teachers, student-teacher ratio and the number of students per classroom at a district-wide level for the 2011–2012 academic year.[27] It is worthy to note the low student-teacher ratio (12:1), especially when compared to those of less affluent districts (shown in Table 2).

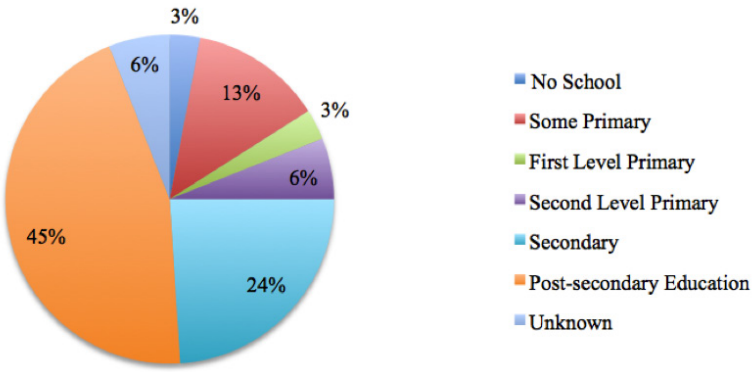
Table 1. Overview of Besiktas' Educational System

Number of classrooms	Number of students	Number of teachers	Student-teacher ratio	Number of students per classroom	
1,701	36,269	2,889	12:1	Primary	24
				Secondary	25
				Career and technical education	31

Source: Besiktas District Directorate of Education, 2011-2012

At the district-wide level, Besiktas has a large population with secondary or post-secondary educational attainment. Figure 2 provides educational attainment for Besiktas residents over the age of 25.[28] Sixty-nine percent of the population has achieved secondary or post-secondary education. Furthermore, only 13 percent of the population has received some primary education. With a student-teacher ratio of 12:1, schools in Besiktas provide students with the proper skills to access higher levels of education.

Figure 2. Educational Attainment for Adults Over 25 Years Old — Besiktas District



Source: "Besiktas: Population by age group, education level and sex - 2012." *Address Based Population Registration System (ABPRS) Database*. Turkish Statistical Institute, 2012.

Low-Income District: Esenler

Esenler is a densely packed, working class, residential district located on the European side of Istanbul. Over the years, Esenler has had intensive migration from rural areas in Turkey, causing huge strains on the education system. Out of a population of 458,694, over 82,000 students are in the education system.[29]

There are 64 schools in Esenler. Table 2 provides the number of classrooms, students, teachers, student-teacher ratio and number of students per classroom at a district-wide level for the 2011-2012 academic year.[30] With a high student-teacher ratio of 40:1, students do not enjoy the same intimate relationships with their teachers as students in more affluent districts.

Table 2. Overview of Esenler's Educational System

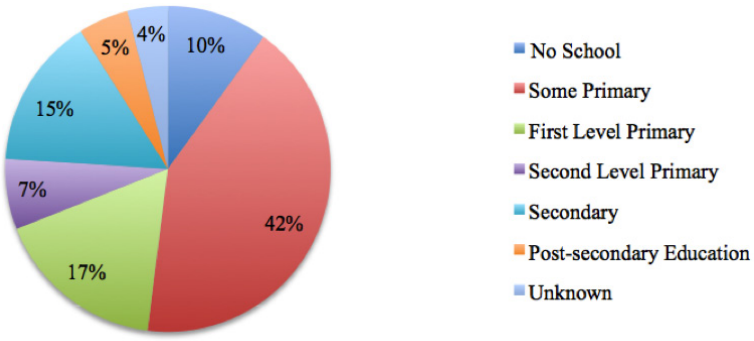
Number of classrooms	Number of students	Number of teachers	Student-teacher ratio	Number of students per classroom	
1,088	83,800	1,985	40:1	Primary	73
				Secondary	70
				Career and technical education	70

Source: Esenler District Directorate of Education, 2011-2012

At the district-wide level, Esenler has a population that has failed to achieve secondary or post-secondary education. Figure 3 provides educational attainment for Esenler residents over the age of 25.[31] Only 20 percent of the population has achieved secondary or post-secondary education. Furthermore, the majority of its residents only have some primary education: 42 percent. In addition to a poorly educated population, Esenler also suffers from

a student-teacher ratio of 40:1. Schools in Esenler experience overcrowding, high student-teacher ratios and poor resources. This does not allow students to successfully attain higher levels of education.

Figure 3. Educational Attainment for Adults Over 25 Years Old - Esenler District



Source: "Esenler: Population by age group, education level and sex - 2012." *Address Based Population Registration System (ABPRS) Database*. Turkish Statistical Institute, 2012.

Commentary

The city of Istanbul has over 2 million students in the education system.[32] These students are dispersed among the 39 districts of the city. As noted in the extensive studies of Besiktas and Esenler, there are huge disparities in educational opportunities. In the district of Besiktas, schools have a lower student-teacher ratio when compared to the district of Esenler. Table 3 states the student-teacher ratio for the districts of Besiktas and Esenler.[33] With a low student-teacher ratio of 12:1, students in Besiktas are able to receive more attention from teachers in assisting with educational issues. In primary schools, Esenler's average number of students per classroom is 73. On the other hand, Besiktas' average number of students per classroom is 24. Given these differences in student-teacher ratio and classroom size, it is evident that the lower-income districts, such as Esenler, suffer from a lack of educational resources, while the higher-income districts do not.

Table 3. Student-Teacher Ratio for 2011-2012 Academic Year

	Besiktas	Esenler
Student-Teacher Ratio	12.1	40.1

Source: "Besiktas and Esenler: District Directorates of Education," 2011-2012

While the entire city of Istanbul has undergone rapid population growth — especially from increased migration into the city — certain districts are experiencing more migration than others. In particular, Esenler has witnessed intensive migration from rural areas. These residents, mostly working-class and low-income, have put a strain on the education system in both districts, leading to overcrowding in schools.

Moreover, the high-income district Besiktas has higher levels of educational attainment for those over the age of 25 when compared to Esenler. The main difference among the districts is the educational attainment of high school and post-secondary education. Post-secondary education represents higher education at a university as well as master's and doctorate degrees. In Besiktas, 69 percent of the population over 25 has successfully completed high school or post-secondary education. On the contrary, in Esenler only 20 percent of those over the age of 25 have attained high school or post-secondary education.

Furthermore, 45 percent of those over 25 years of age in Besiktas have attained post-secondary education. On the other hand, 42 percent of the population over 25 years old in Esenler has only attained some primary education, meaning they started but did not complete primary school. Overall, Besiktas has higher levels of educational attainment than Esenler. With these higher levels of education, parents are able to provide their children with better educational resources and support, leading to better educational outcomes in the long run.

Buenos Aires Case Studies

Buenos Aires City is divided into 15 comunas or communes. With the division of the city into comunas, there is a clear distribution of wealth and poverty. Generally, the Southern region of Buenos Aires hosts the comunas with the greatest incidence of poverty while wealth is concentrated in the northernmost region. For the Buenos Aires case study, we analyze one comuna from the northern region, Comuna 14, which has a student population of 45,053. We also analyze Comuna 8 in the Southern region. The Southern comuna has a student population of 32,839.

Low-Income Comuna: 8

As a factor in educational performance, poverty has proven to negatively affect school attendance, completion and performance. From 2003 to 2009, the rate of school attendance for 12- to 17-year-old students in the poorest income quintile never exceeded 95 percent. Conversely, students from the wealthiest income quintile achieved 100 percent attendance rate during most of the observed years.[34] The educational achievement level for adults also varies by income. Individuals of high-income households are less likely (1.06 percent of 15-19-year-olds) to have not completed primary school, whereas a greater percentage of students from low-income quintiles (4.85 percent) have not acquired more than primary education.[35] Furthermore, the problems in differing qualities of education are rooted in the city's reliance on private schooling. In the city of Buenos Aires as a whole, private schools outnumber public schools, ranging from 57-58.5 percent of establishments from the years 2005-2011.[36] Private schools in Buenos Aires are typically smaller than public schools, thus there is still a slight majority of students being enrolled in public school.

Students from low-income households have lower attendance and completion rates than students from higher-income households.[37] The students in Comuna 8 face the inherent challenges of poverty, but we will investigate whether they also have less access to "quality" schools and lower rates of completion than other comunas in the city.

Of the 15 comunas in Buenos Aires, Comuna 8 has the highest incidence of poverty — 17.1 percent of households, representing 25.66 percent of the population of the comuna live in poverty.[38] In 2011, there were 93 public schools and 55 private schools in Comuna 8. These schools catered to 10,580 students in the initial level, 25,829 in primary school and 11,090 students at the secondary level. At the superior level, excluding university level, 1,830 students matriculated into teaching and technical institutions.[39] It is of note that there are more public schools than private schools. The higher numbers of public schools are concentrated at the preschool and primary school level, while public and private institutions are about equal for secondary education.

In 2011, 10.5 percent of students in primary school were overage at the citywide level. At 17.6 percent, Comuna 8 has the highest proportion of overage primary school students. Overage students are telling of both a late start to schooling and repetition of grades. In 2008, Comuna 8 had the highest rate of students that were repeating their year (3.6 percent) in the city.[40] Again, the rate was higher in public schools — 4.4 percent — while in private schools only 1.8 percent of students were repeating the year. The rate in primary schools of both overage students and students repeating grades was slightly lower in 2011, with 17.6 percent and 4.1 percent, respectively.[41] The breakdown between public and private schools was similar.

In secondary schools, the percent of students who are overage or repeating greatly increases. In Comuna 8, 44.4 percent of students were overage in 2011, greater than the citywide rate of 31.3 percent.[42] The breakdown once again shows that public school students are also more likely to be overage, with 55.9 percent of public school students in Comuna 8 being overage compared to 25.4 percent in private schools. Although the rate of overage students in private schools seems high, it is lower than the overage rate in public schools in even the wealthiest comunas. Likewise, the rate of repeating students in secondary levels in Comuna 8 is higher than the rate for the city (10.1 percent), sitting at 12.5 percent. Again, there is a difference between public and private institutions, with the rate of students repeating grades at private schools in Comuna 8 lower than the rate at public schools anywhere in the city. The high number of overage students or students who have to repeat years in Comuna 8 shows that the schools in this comuna are not successfully advancing students through the educational system as they should be.

As students get older, they are less likely to continue with schooling, and thousands of students drop out upon reaching the age when they are no longer required to attend school.[43] If students are not feeling successful in school, they have less incentive to continue, especially when there is a competing pressure to find a job. As of 2006, residents of Comuna 8 over the age of 25 completed 10 years of school on average, the lowest rate in the city.[44] In 2011, 56.4 percent of Comuna 8 residents over 25 had not completed secondary school.[45] This is nearly double the rate of those who have not completed secondary school among all Buenos Aires residents over 25 (28.7 percent).[46]

The data on the highest level of education attained by adults over the age of 25 demonstrates a correlation between income and education achievement (Tables 4 and 5). Comunas with lower

levels of achieved education typically indicate lower average incomes. For example, in Comuna 8, 24 percent of the adult population over the age of 25 achieved primary school as their highest form of education. This differs tremendously with the higher-income comuna analyzed in this study (Comuna 14), where only 6.6 percent of the adult population has primary school as their highest completed education level. Conversely, the wealthier comuna has larger populations who completed or matriculated into education beyond the secondary level. According to the Dirección General de Estadística y Censos of Buenos Aires, comunas with higher incomes always have a higher percentage of adults over the age of 25 who have at least pursued or completed "superior" education (or post-secondary education excluding university). It is immediately obvious that residents of Comuna 8 achieve the least amount of higher education. Over the course of four years (2008–2011), the population of Comuna 8 does not ever have more than 20 percent of its adult residents pursuing or achieving higher education. Therefore, the level of education achieved in a comuna correlates to its incidence of poverty.

In neighborhoods where parents and community members have low levels of educational attainment and there is not a tradition of finishing secondary school, the schools face an additional challenge of motivating parents and students to value education. Yet in Comuna 8, students are having to repeat grades and are falling behind in school, continuing the cycle. Those in Comuna 8 are also more likely to be in public schools despite the prevalence of private schooling in Buenos Aires as a whole. Students at private schools have better success rates, and students in Comuna 8 have less access to these schools. Even the repetition rates for private schools in the comunas with the highest proportion of students repeating grades are lower than the rates for public schools in the comunas with the lowest number of students repeating. By not having easy access to private schools when so many other students in the city choose that option, residents of Comuna 8 are continuing to have lower quality education. The likely resultant of this education is higher poverty levels than the rest of Buenos Aires.

Table 4. Percentage of Population 25 and Older with Primary as Highest Level of Education Completed, 2008–2011

	2008	2009	2010	2011
Comuna 8	26.8	26.5	25.5	24
Comuna 14	9.7	8.9	5.9	6.6

Source: Anuario Estadistico, 2008–2011

Table 5. Percentage of Population 25 and Older with Superior School as Highest Level of Education, 2008–2011

	2008	2009	2010	2011
Comuna 8	17.8	19.8	18.9	19.1
Comuna 14	61.0	61.8	66.7	71.1

Source: Anuario Estadistico, 2008–2011

High-Income Comuna: 14

Upon examination of data, Comuna 14, Palermo, of Buenos Aires City was shown to be one of the comunas with the least amount of poverty, according to the *Unidad de Informacion, Monitoreo y Evaluación* (UIMyE). With less than 5 percent poverty, Comuna 14 can be designated as one of the two higher-income areas in the city.[47] Comuna 14 has by far the most private institutions available to students at all levels of education, with 145 total institutions — 47 initial, 44 primary, 35 secondary and 19 superior level.[48]

Additionally, in 2007, the number of matriculating students to public schools in Comuna 14 was 7,130 and 10,452 for private schools.[49] In 2011, rates were in the lowest range, with 22.8 percent overall, 37.6 percent of overage students were in public institutions and 14.3 percent were in private institutions. Percentages for repetition rates display similar patterns for both comunas relative to other areas. Comuna 14 displayed a 0.8 percent total repetition rate, with 1.6 percent of repetitions in public institutions and 0.3 percent of repetitions in private institutions.[50]

In addition to the advantages observed in the higher income comunas via greater access to institutions, lower repetition rates and lower overage rates, the highest level of education reached is also evidence of the benefits received by students in higher-income regions. From 2008 to 2011, Comuna 14 has maintained a low number of individuals 25 years or older who have not finished more than primary level education.[51] Comuna 14 has not exceeded 10 percent in this matter and is amongst the lowest percentages. For individuals 25 years or older who have reached superior level of education, Comuna 14 excels. Between 2008 and 2011, the comuna has not fallen below 61 percent, greatly exceeding completion rates in the low-income comunas.[52] In the case of Comuna 14, the results from the high-income area surpass the results of Comuna 8 by a large margin.

Commentary

It is clear from our case studies that students in the affluent neighborhoods of Comuna 14 have more access to private schools than the higher poverty area of Comuna 8. Comuna 14 also has fewer students that are overage or repeating grades, and its residents have higher overall levels of education completed. Private schools in particular have lower repetition rates and fewer overage students than public schools, but the public schools in the wealthier comunas also have better outcomes than public schools in the villas. Higher levels of education and university attendance in the wealthier comunas continues to be the norm, as students in these areas have access to private schools and public schools with better completion rates.

The imbalance between private and public education in high- and low-income communities is evident. Between Comunas 8 and 14, a significant difference is seen in education at the superior level in public schools: in Comuna 8, 1,830 students attend superior level schooling, while in Comuna 14, 8,309 students are in public superior level schooling and 5,088 students attend private superior level institutions.[53] These differences help illustrate the disparity between education obtained by students in lower- and higher-income regions. Students in the lower-income areas of Buenos Aires do not have as many private schools available or public schools that help them to close the education gap between wealthy and middle class students and the working class.

Conclusion

Istanbul and Buenos Aires have both sought to decrease the exclusivity of educational attainment by implementing systems designed to empower all children with an excellent education, regardless of their family's socioeconomic status. Unfortunately, the results from our research suggest that despite those attempts, a child's socioeconomic status still restricts their educational opportunities and outcomes. Wealthier students still receive a superior education from private schooling, private tutoring and access to superior public schools. Educational attainment in both cities is significantly higher in the wealthier districts, where exclusive education is more easily accessible and is linked to higher education. In Istanbul, student-teacher ratios are higher in low-income areas, and schools are more crowded. In Buenos Aires, repetition rates and the number of overage students are higher in low-income districts, and private schools with better outcomes are less available. Through this research, we identified common characteristics and important differences between the two cities and developed unique recommendations to positively influence the persistent educational inequality problem.

While both cities have a prevalent form of exclusive early education and very constricting pipelines to higher education, the characteristics of each differ. While private schooling is a dominant form of primary and secondary schooling in Buenos Aires, the same trend does not hold true for Istanbul. The primary method for Turkish elites to contribute to their children's education is through the hiring of private tutors. Concurrently, there is a resource problem in Turkey, as the number of spots available at the country's universities fails to come close to meeting the demand from high school seniors. However, students in Buenos Aires are weeded out far earlier on, gradually falling off and dropping out throughout their early education. Students in Turkey largely wait until their senior year of high school — when they take the college admissions test — to figure out their path.

The process for making educational policy as well as the various pressures each country faces also differs. In Turkey, policymaking is almost exclusively at the national level, while in Argentina, policymaking is more at the provincial level. In conjunction with this, Turkey has additional pressure due to its bid to become a member of the European Union. Turkey's continued bid to be a part of the multinational organization has had effects across the breadth of the country's policies.

While similar problems with exclusive access to higher education arose in both cities, the policies leading to them were different. Thus, our policy recommendations vary by city. For Istanbul and Turkey as a whole, we recommend increasing the number of universities and expanding the current universities seats, eliminating the high school admissions test, and localizing educational functions at the district and school level by providing more flexibility. Access to higher education should be increased by not only building more universities but also by expanding the existing ones. A college degree is increasingly necessary, and a student should not have to score in the top third or quarter to be eligible to obtain one. Increasing the test prep in the public schools and offering state-sponsored tutoring for those that cannot afford it should

also increase access. The high school admissions test creates an unnecessary separation between those who received a great early childhood education and those who did not. Eliminating that barrier and making high schools more open should help lessen educational inequality in Turkey. Finally, more decision-making should happen at the district and school level. This will allow individual districts and schools to address the needs of their particular constituents and to try out different approaches that could be picked up by other districts.

For Buenos Aires, we recommend that the government continue to try to improve public schools and to attract more students to the public system. A major policy change that would increase the number of students in public schools and reduce the education gap between affluent and less affluent students would be to end public subsidies of private school. These subsidies disproportionately benefit the middle class while leaving those who still cannot afford public school with less motivated classmates and families that are less involved in the school. We also recommend that the city continue its program to improve teacher training and preparedness. Teachers who are not able to complete basic math problems on evaluation tests cannot properly educate students. A further recommendation involves the city's social programs that are tied to education. Buenos Aires has many programs aiming to encourage lower income students to stay in school, but the programs are not always implemented effectively and there is a lack of follow through. A more effective use of limited resources would be to offer a few programs well, rather than many programs that are haphazard or frequently replaced.

Overall, both Istanbul and Buenos Aires as well as their encompassing countries are working from a base that has several features in common in addition to several important differences. This paper has outlined those similarities and differences and provided recommendations that could help each city continue to push toward a meritocratic society in which a child's educational attainment is not dictated by their parent's socioeconomic status.

Endnotes

1. Orhan Akinoglu, "Primary Education Curricular Reforms in Turkey," *World Applied Sciences Journal* 2 (2008): 195–199.
2. Ibid.
3. Higher Education Council, Student Selection and Placement Centre (ÖSYM), "Selection and Placement of Students in Higher Education Institutions in Turkey," 2006, available at http://www.osym.gov.tr.
4. Aysit Tansel and Fatma Bircan, "Private Tutoring Expenditures in Turkey," Institute for the Study of Labor, August 2004.
5. Margaret Fitzpatrick, Fauzia Rahman, and Huseyin Esen, "Globalization and Education Policy in Turkey: Education of Women, Religious Education, and Higher Education," *Education and Globalization* (2009): 26.
6. Tansel and Bircan, "Private Tutoring," 6.
7. Ibid.
8. Ibid, 5.

9. Ibid, 10.

10. Ibid, 15.

11. Ibid, 6.

12. Michael Tanenbaum, "Que Se Vengan Todos: The Comunas of Buenos Aires," *The Argentina Independent*, April 11, 2012.

13. Consultoria Integral en Gestion Publica, "Buenos Aires City Budget 2013."

14. Ibid.

15. "Diputados sanciono la nueva Ley de Educacion," *Clarin.com*, December 14, 2006.

16. Barry James, "Buenos Aires aims to cut dropout rate," *New York Times*, October 15, 2002, http://www.nytimes.com/2002/10/15/news/15iht-rargentine_ed3_.html.

17. "Educación," Buenos Aires Ciudad, http://www.buenosaires.gob.ar/educacion.

18. Ibid.

19. Ariel Fiszbein, "Institutions, Service Delivery and Social Exclusion: A Case Study of the Education Sector in Buenos Aires" (Washington, DC: World Bank, 2000).

20. "Anuario Estadistico 2011."

21. Ibid.

22. Buenos Aires Ciudad, http://www.buenosaires.gob.ar/educacion.

23. "Ranking the Rich and the Poor: Districts in Istanbul," *Medyacafe Net*, October 4, 2011.

24. Ibid.

25. Robert Becker, "Student Achievement as a Function of Class-Size and Pupil-Teacher Ratio" (PhD diss., Eastern Michigan University, 2006), 51.

26. Turkish Statistical Institute, "Population of Province/district Centers and Towns/villages by Districts–2012," *Address Based Population Registration System (ABPRS) Database*, accessed April 28, 2013, http://rapor.tuik.gov.tr/reports/rwservlet?adnksdb2&ENVID=adnksdb2Env&report=wa_turkiye_ilce_koy_sehir.RDF&p_il1=3&p_kod=1&p_yil=2012&p_dil=2&desformat=html.

27. "Besiktas District Directorate of Education Home Page," İstanbul - Beşiktaş İlçe Millî Eğitim Müdürlüğü, accessed April 28, 2013, http://besiktas.meb.gov.tr/.

28. Turkish Statistical Institute, "Besiktas: Population by age group, education level and sex–2012," *Address Based Population Registration System (ABPRS) Database*, accessed April 25, 2013.

29. "Esenler Municipality Home Page," *Esenler Belediyesi*, accessed April 28, 2013, http://www.esenler.bel.tr/.

30. "Esenler District Directorate of Education Home Page," *Esenler Ilce Milli Egitim Mudurlugu*, accessed 28, 2013, http://esenler.meb.gov.tr/.

31. Turkish Statistical Institute, "Esenler: Population by age group, education level and sex–2012," *Address Based Population Registration System (ABPRS) Database*, accessed April 25, 2013.

32. Personal meeting with Professor Korel Goymen.

33. Kadikoy, Besiktas, and Esenler District Directorates of Education.

34. "Argentina Instituto Nacional de Estadisticos y Censos 2011."

35. Ibid.

36. "Anuario Estadistico 2011."

37. "Argentina Instituto Nacional de Estadisticos y Censos 2011."

38. Ibid.
39. "Anuario Estadistico 2011."
40. Ibid.
41. "Anuario Estadistico 2011."
42. Ibid.
43. Barry, "Buenos Aires aims to cut dropout rate."
44. "Anuario Estadistico 2006."
45. "Distribución porcentual de la población de 25 años y más por máximo nivel de instrucción alcanzado según comuna."
46. Ibid.
47. "El Derecho a la Educacion, Defensora del Pueblo de la Ciudad Autónoma de Buenos Aires."
48. "Anuario Estadistico 2011."
49. "El Derecho a la Educacion, Defensora del Pueblo de la Ciudad Autónoma de Buenos Aires."
50. "Anuario Estadistico 2011."
51. "Anuario Estadistico 2008–2011."
52. Ibid.
53. Ibid.

Houston's Vietnamese Community and the "Model Minority"

by Victoria Dominguez '15

Introduction

The Vietnamese community has a special place in the United States, especially in the city of Houston. According to 2010 census data, Houston has the fourth-largest Vietnamese population in the United States, with almost 35,000 Vietnamese people. While there were Vietnamese families already living in Houston before the 1960s and 1970s, the Vietnam War caused a major influx of refugees from Vietnam. Many of those immigrants have risked everything and achieved much success for themselves and their families in the following decades. The Vietnamese population continues to grow and spread throughout the city. As a community, the Vietnamese people preserve their cultural heritage while making adjustments to fit into the dominant American culture. However, the public image of the Vietnamese has been distorted to represent a peculiar place in the hegemonic hierarchy of race. How have the stereotypes surrounding Vietnamese-Americans or Asian-Americans in general affected the population? Which aspects of the distorted view are true, and which are false? Do the Vietnamese have spaces within Houston that solely belong to them and no other group?

The Model Minority Image

First, the Vietnamese are typically lumped together with other Asian groups in discussions of race. This Asian category holds a troublesome middle ground in the racial hierarchy that serves to maintain the white group on top, while other races continue to be held down at the bottom. The Vietnamese community is both accepted and rejected by American culture. They are considered a part of the "model minority" because "they have managed to achieve well-paying positions and higher socio-economic statuses ... without special programs or welfare."[1] However, this harms the Vietnamese community because "the model minority is also used by the white majority to neutralize social unrest by dissident minority groups in society."[2] Cultural differences also create barriers that hinder Vietnamese people from accessing important services such as healthcare. Specifically, many of the older generations who only speak their native language and stay within their community are unable to obtain the care that they need.

The model minority image also makes the inaccurate assumption that Asian minority groups do not and will not complain about public policy and instead submissively accept the will of the government. This assumption ignores the recent political power that the Vietnamese have gained and used to make changes within their own community as well as to speak out on an international level to Vietnam and other countries. The personal stories of the refugees

who moved to Houston during the Vietnam War exemplify the strength and power of the Vietnamese community. However, this success works against the Vietnamese community when they are considered a part of the model minority, because the image of hard-working refugees makes success an expectation of all Asian-Americans, even those who do not share this experience.

This hegemonic device of the model minority image is paradoxically both real and nonexistent. It is proven false by news reports and articles that show the Vietnamese diaspora using political power to cross international borders and wield influence, but it is real enough to cause health problems for the Vietnamese community within Houston, as evidenced by articles in medical journals.

In the article "Becoming American: Vietnamese in Houston," Carolyn Cullinan tells the stories of four Vietnamese immigrants who abandoned their homeland during the war and created new homes and legacies in Houston. The image of the refugee has often fallen victim to the racial hegemony that portrays white Americans as the ones who rescue the desperate Vietnamese in a giant helicopter and carry them to a hopeful new life in the United States. The famous musical "Miss Saigon" has caused controversy due to the prevalence of this imagery as well as the fact that the musical romanticizes the relationships between American soldiers and Vietnamese women. Vu Thanh Thuy, one of the women whose story is recounted in Cullinan's article, "admits to having had feelings of anger toward the sensitive subject of relationships between American GIs and Vietnamese women during the war. Without blame for either party, she resented the futile existence of poor Vietnamese women who saw relationships with GIs as a means of escape. Conversely, she pitied the GIs who sought comfort and consolation with Vietnamese women."[3] The Vietnamese who came to Houston certainly had assistance along the way on their perilous journey, but they were anything but helpless and completely dependent.

The escape stories of the four refugees—Vu Thanh Thuy, Nga Doan, Tri La and Dai Huynh—and their families show how much courage and strength it takes to escape a war-torn country. These are attributes that came from the Vietnamese refugees themselves. Many of the refugees struggled to even keep their families together, such as Nga Doan's family which "was able to stay together as it fled south to the mountains" but was "unable to complete preparations for [its] final escape until 1981," when she and her husband, Ruyen Doan, "had to go back through Vung Tau and board a wooden boat with seventy-two other fleeing refugees."[4] From the boat, they were taken in by a U.S. oil tanker, and then they stopped in Indonesia and a refugee camp before they were finally sponsored by an uncle to come to the United States.

Another refugee, Vu Thanh Thuy, had just given birth to her first child when her sisters and father escaped Vietnam before the fall of Saigon. She and her husband Duong Phuc chose to stay behind with his five brothers, and "Thuy remembers the pain she felt when her father turned away to hide his tears, believing he would never see her again."[5] Phuc worked as a newsroom chief for the South Vietnamese Army radio station, which made him a target after Saigon fell. He was captured and spent the next two years in communist "re-education"

camps while Thuy secretly followed him in disguise and sneaked him letters in his cigarettes. After he managed to escape the camp, the family spent two more years in the country running and hiding before finally getting on a boat for refugees. Their struggle to get to the U.S. did not end there, for they were attacked by pirates and spent 21 days in violent captivity. The two were finally spotted and the U.N. sent a rescue team for them, but they still had to wait another year in a refugee camp in Thailand before they at last arrived in the United States and reunited with the rest of her family.

The other two refugees—Tri La and Dai Huynh—also endured hardships while trying to reach the U.S. Tri La's family was able to survive after communists seized control of most of their restaurants because his mother traded on the black market until they had the money to flee the country. However, the family still "spent fourteen months in an Indonesian camp" before "an aunt in Houston who had encouraged them to 'wait for America' was able to sponsor them for entry into the United States."[6] Dai Huynh and her family witnessed the chaos in Saigon when the capital of South Vietnam collapsed. This was especially shocking to her father, "a high-ranking military official who had believed that the U.S.-backed South could not possibly lose the war," but when the danger they faced grew more present, he "flagged down a departing motorboat and arranged passage for his family to a camp in the Philippines."[7] They finally arrived to the United States by plane. While Americans and Europeans did offer assistance at some points during these long journeys, the main power and strength came from the refugees themselves.

In these refugee stories, two spaces serve as the symbols of transportation away from the war. The aircraft is the white man's space, which comes from the air and carries the Vietnamese refugees to safety. However, the boat belongs to the Vietnamese. It was made by them, it is owned by them, and they are the ones who use it to reach the next destination on their journey. The boat represents their hard work and their success in escaping. For other groups, a boat can mean something completely different. In Katherine McKittrick's book concerning the political and physical place of black female bodies, she discusses how "the geographies of transatlantic slavery were geographies of black dispossession and white supremacy, which assumed racial inferiority and justified enslavement."[8] For the black people who were packed by the hundreds onto giant slave ships, the ships themselves became their place of enslavement, a place where their bodies stopped belonging to them and became the property of the white man. For the Vietnamese refugees, the boat has the exact opposite meaning. The boat is how they move away from political chaos and towards freedom, how they escape communism and gain control over their own bodies. It gives them mobility rather than taking it away. The refugee camps may belong to Thailand, Indonesia and the Philippines, and the helicopters, planes and oil tankers may belong to the Americans and Europeans, but the boat belongs to the Vietnamese refugees.

Leaving Vietnam and coming to America was just the beginning. The next step for the refugees in Houston was to use their already developed knowledge and skills to make a decent living for themselves and their families. The four refugees each "had a skill or was part of a family that had a business, and all found a way to utilize their skills in mainstream America on arrival"

and "today, by American standards, they would all be considered successful and have become civic and business leaders in the city of Houston."[9] Nga Doan and her husband spent four years at her uncle's plant nursery in Beaumont, learning the trade, before they moved to Houston and opened their own business, JRN Nursery, which has been successful enough to put all 10 of their children through college. Tri La graduated from the University of Houston with a business degree and runs the Kim Son restaurant chain with his family. Vu Thanh Thuy and her husband reported radio news while they still lived in South Vietnam on a station called Voice of Freedom. They now own Radio Saigon Houston, a radio station that reaches as far as Galveston and Austin. The family also co-hosts a radio call-in show that features news and feedback from the Vietnamese community. Dai Huynh was still very young when her family made it to America, and her parents had two jobs each: Dai Huynh's father worked as a copywriter and a school janitor, while her mother worked as a maid and factory worker. After her family moved to Houston, she also attended the University of Houston and pursued a degree in journalism that landed her a career as a staff writer for the Houston Chronicle. The hard work and perseverance of these four and their families has led them to realize the dream that thousands of immigrants come to America to achieve.

A personal interview with Anna Pham, general manager of Mai's Restaurant in Houston's Fourth Ward, provided insight into the story of the family-owned restaurant. Mai's Restaurant has a strong reputation in the city of Houston, having won "Best Vietnamese" in the Houston A-list for 2013 as well as other awards and featured articles in multiple publications. It was even featured in an episode of the Food Network's "Hungry Detective" in 2006. Mai's was established in 1978 by Phin and Phac Nguyen, originally as a pool hall that offered billiards 24 hours a day as well as snacks, but when they realized that patrons who came during the later hours were simply looking for something to eat, they moved to their current location on Milam Street and converted the business into a restaurant. As refugees from the Vietnam War, they initially lived in South Dakota, but decided to move to Houston when they heard there was warmer weather, as well as lower costs of living and a growing Vietnamese population. The business helped them provide for eight children and multiple grandchildren. The restaurant was named after one of their daughters, Mai Nguyen, who later inherited the restaurant in 1990. Mai's restaurant has served as a source of employment for the Nguyen family. Over the decades, the restaurant has grown in size and popularity, and was even rebuilt after a fire in 2010. Yet no matter how much the restaurant has evolved, it has not lost its Vietnamese roots. It is a symbol of the culture, the labor and the success of the Nguyen family.

Many Vietnamese refugees have been so successful in Houston that unfortunately the group as a whole falls victim to the stereotype of the "model minority" in the American racial hegemony. The model minority encompasses all Asian-Americans, whether they immigrated or were born in the U.S., and assumes that they are all exceptionally intelligent, hard-working, and economically successful. In this model, Asian-Americans represent all the characteristics that other minority groups such as Latinos and blacks should strive for. On the surface, this sounds like a positive stereotype, but in reality it has very concerning negative repercussions. The first problem is that the stereotype portrays all Asian-Americans as a "homogeneous group." This removes all ethnic, cultural, social-class, gender, language, sexual and generational distinctions

of different segments of the Asian-American population.[10] While other Asian-American families may have immigrated to Houston for similar reasons and achieved similar success running family restaurants and business, their cultures, their languages and histories are still distinct from that of the Vietnamese refugees and their descendants.

Another problem with the model minority image is that it assumes that "all Asians are the same because they all experience success."[11] This undercuts the rampant poverty and illiteracy that pervades certain Asian-American communities. People know that black and Latino neighborhoods have problems, and those who are aware of these problems form organizations and funds specifically made to aid these groups. However, since the Asian-American community is seen as successful and capable of self-sufficiency, there is significantly less aid focused on this group, even though there are Asian families who are not wealthy and are in need of the aid.

The bigger problem that affects more than just the Vietnamese community is how the model minority image reinforces the racial hegemony because it "maintains the dominance of whites in the racial hierarchy by diverting attention away from racial inequality and by setting standards by how minorities should behave."[12] It takes the experience of the Vietnamese refugees, who have worked hard against all odds and struggled for survival, erases the "Vietnamese" from it, and considers it the work ethic that all Asians have, and all non-Asian minorities should learn to develop. It makes work ethic appear to be a racial culture quality that some races have and some races do not. If white people are predominantly successful, it is attributed to the fact that white culture encourages a strong work ethic. If Asians can be as successful without being white, then there must be something inherently wrong with black and Latino culture. These are the assumptions made with the logic of having a "model minority."

The racial hegemony in the United States resembles the historic system of Eurocentrism that dominated public discourse during the colonial era. This is the "label for all the beliefs that postulate past or present superiority of Europeans over non-Europeans (and over minority people of non-European descent)" and "the really crucial part of Eurocentrism is not a matter of attitudes in the sense of values and prejudices, but rather a matter of science, and scholarship, and informed and expert opinion."[13] Even if "we can banish all the value meanings of this word, all the prejudices ... we still have Eurocentrism as a set of empirical beliefs."[14] These beliefs made the historical "facts" that Europeans were the only people capable of innovation, and that history was made by Europeans. This connected to the idea of diffusionism, which believed that even if civilizations outside of Europe achieved an innovation, the technology to foster this innovation must have diffused out of Europe to the other civilizations. The quotation below provides an example of a diffusionist perspective on non-Western technological innovations:[15]

> "... for instance, the fact that the blow-gun is traditionally used among some Native American peoples as well as some Old World peoples is ... the result of the diffusion of this trait from the Old World to the New: the New World people, they believe, probably did not invent the trait for themselves. Why? Because they were probably not inventive enough to do so."

The racial hegemony in the United States is similar to Eurocentrism in that the white population, descended from the European immigrants, has dominance over the minority populations of different non-white groups. Financial success and prosperity are treated as "white qualities," and if individuals from minority backgrounds ever achieve success, they are considered more "white" than other members of the minority group. U.S. racial hegemony places Asians at a crossroad — too foreign to be at the highest rung with the whites, but too successful to be on the lowest rung with African-Americans and Latinos.

The idea that Asian-Americans are a different kind of minority stems from the sense that they do not truly weave into American culture. Asian-Americans are "perceived to be unassimilable foreigners as opposed to American minorities" due to "the image that Asians are always foreign(ers) [that] has been perpetuated by the Orientalist discourse which holds that there are innate differences between the East and the West" and also "suggests that an Asian person can never become an American."[16] Another widely held view is "that Asians in the United States are often seen as immigrants as opposed to minorities ... while African-Americans are domestic minorities or involuntary minorities."[17] In the case of the Vietnamese refugees who came to Houston to escape from the Vietnam War, there is some truth to this argument, but these assumptions mistake the attempts by the Vietnamese community to retain their culture as being "unassimilable." In reality, the refugees and their progeny have taken meaningful steps to adjust to American life, but the "foreign" aspects of Vietnamese-Americans distinguish them from other Asian-American groups.

The strongest tie that the Vietnamese-Americans in Houston have to their traditional culture is their language. English, often considered the language of business, has been necessary to learn in order to attract non-Vietnamese customers. The native language of Vietnam has been kept alive at home among the families and the community. Vietnamese has also entered the public space through radio and newspapers like Dan Viet. Vu Thanh Thuy and Duong Phuc's Radio Saigon Houston not only keeps the Vietnamese language alive but spreads it over the airwaves so that even Vietnamese speakers outside of Houston can tune in and hear a piece of their culture. The radio station fills a special niche in the Vietnamese community, and it has "taken a strong foothold in the Houston Vietnamese media market with programming that mixes talk shows with news and music. The station's presence is also credited with helping spur Vietnamese migration from the West Coast to the Houston area."[18]

Radio Saigon is popular with all generations of Vietnamese-Americans, not just the older generations who used to live in Vietnam. The future of the station looks very promising, for "the station's growth with the Vietnamese-language radio format also illustrates a thriving and expanding Vietnamese community in Houston with an appetite for programs in their native language. Their staff has grown from five to 35 part-time or full-time employees, plus more than 80 contributing hosts."[19] Vu Thanh Thuy has expressed her optimism about the station, stating, "This is just the beginning ... At first we thought the language will die down with the older generation, but our success has proven that wrong."[20] The radio station has benefited not only Vietnamese listeners but also the city of Houston itself. Since the station airs a simulcast in California, "word about Houston's attractive markets has spread" and "over the past few years

Houston's comparably cheap estate, cost of living and investment opportunities have lured West Coasters."[21] Baldwin Park, the Vietnamese Heritage Plaza that is dedicated to the Vietnamese who have made Houston their home, has words of wisdom engraved into the concrete benches in Vietnamese, so their unique language will be immortalized within the city. Keeping the language on the air, on print and on pavement helps the Vietnamese community and Houston itself grow in numbers and in cultural diversity.

Vietnamese-Americans of different generations have adjusted to American lifestyles out of necessity. Those who run businesses, like Tri La, have "learned that in America, customer service is the key to success," so they keep "maintaining a nice, clean establishment, even remodeling every five years, and continually updating touches," even if "such continual improvements would not be so important in Vietnam."[22] Younger generations have had a significantly easier time identifying with American culture, such as Dai Huynh, whose "future was a blank tablet on which any mix of Vietnamese influences and American culture could be written."[23] The Vietnamese-American community has been able to keep their culture alive and thriving, while adopting certain American customs.

Strangely, the negative stereotype that Vietnamese-Americans will never be "true Americans" has pushed the community to achieve more success. Asian-Americans are seen as less than "real" American citizens "despite the energy they put forth to be model citizens" because "they are confronted with rejection by more nativistic whites."[24] However, "the exclusion and other difficulties that the older generations have faced at the hands of whites help to explain why the stakes are high for successive generations, as parents and grandparents hope that at least their children will eventually be accepted by whites because of hard work and education achievements."[25] This would suggest that the "model minority" stereotype and the success of the Vietnamese people are correlated. The more the racial hegemony declares this group as outsiders, the harder they work to try and gain approval, but that hard work becomes "proof" that Asians are inherently different despite how much they are willing to change their ways to fit in.

The model minority stereotype does more than push Asian-Americans to work harder. The stereotype causes indirect physical harm to the Vietnamese population. Many Vietnamese women suffer from cervical cancer, and "the myth that this minority group is healthy and prosperous and enjoys only success with few problems may have resulted in the population being understudied," so "their health care problems and needs receive little or no attention."[26] It was not until 1991 that the University of California teamed up with the California Department of Health Services to make the CDC's Behavioral Risk Factor Surveillance System (BRFSS) available in Vietnamese, so that information on risk factors for noninfectious diseases, cancer included, would be available to the hundreds of thousands of Vietnamese living there. It was discovered that "despite the high rate of cervical cancer amongst Vietnamese women ... the prevalence rates for 'never having had recommended cervical cancer screening' were higher among [them]" and "few other reports have addressed Pap screening levels in this population."[27]

Furthermore, a telephone survey in the Houston area found that "Thirty-one percent of Vietnamese respondents indicated that they were college graduates ... 15 percent indicated a household income of $75,000 or more" and "27 percent of Vietnamese reported that they lacked health insurance."[28] The thousands of Vietnamese people in need of assistance are not receiving aid due to the model minority mindset. They fall under the umbrella label AAPIs (Asian American/Pacific Islanders), but "the practice of aggregating data for 60 nationalities into one AAPI category masks marked differences in major demographic characteristics that are known to be associated with risk factors for low cancer screening in any population."[29] Thus the assumption that all the Vietnamese in Houston are financially secure and successful is completely false. Furthermore, lumping Vietnamese-Americans together with all Asian-Americans skews statistical data and creates a barrier for their access to health care.

Another barrier that harms the Vietnamese people's health is related to cultural differences. There are several aspects of Vietnamese people that are understood by care providers and vice versa. Part of it ties back to language, because "in Houston, more than a third of [Asian/Pacific Islander] residents are considered linguistically isolated or have no one in the house older than 14 who speaks English very well," and that includes Vietnamese households.[30] They need the health care information available in their own language above all else, but that is difficult for them to access, because "very little printed health information from either state or private sources is available in Vietnamese" and "when they are available, most materials are a mere translation of an English version and, as such, are not always culturally appropriate."[31] Another problem is that even if Vietnamese people were able to see a doctor, "many Vietnamese prescribe to traditional Eastern remedies rather than or in addition to Western medicines; the combination of both can lead to unexpected chemical interactions."[32] Fortunately, there have been efforts to fix these issues and provide this part of the population with satisfactory health care. Within Houston, "UTMB HealthCare Systems, one of the three HMOs selected to participate in STAR+PLUS, has taken a unique approach to successfully managing the care of its Vietnamese members" by making sure that "each STAR+PLUS member is matched with the care coordinator best able to meet his or her individual needs based on health care status, need for services, and linguistic needs."[33] It is important that cultural difference be acknowledged and worked with instead of using those differences to label the Vietnamese as just another Asian group that is isolated from American culture and customs. When programs like STAR+PLUS acknowledge that the "model minority" is not without its health care problems and take the time to understand what different groups like the Vietnamese want and need from medical practitioners, then both sides benefit.

The final issue brought on by the model minority stereotype is that it takes away the credibility of Asian-Americans and all the ethnic groups contained in that category as political forces. Part of their reputation is that "'good' minorities know their place within the system and do not challenge the existing system," but this hurts all minority groups because "*U.S News and World Report* implied that other minority groups should model their behavior after Chinese-Americans rather than spending their time protesting inequality ... thus Asian-Americans were included in discussions of race in order to exclude/silence the voices of African-Americans."[34] Contrary to this belief, the Vietnamese community has proven itself to

be a strong viable political actor not only with domestic politics but also on an international level. Boat People SOS is a Vietnamese-American organization with branches all over the United States, including Houston, which serves to advocate for different causes within their interests, develop their community and build leaders who influence social and political issues. By calling themselves "Boat People" they take advantage of the place that has been commonly associated with their identity. Their boat is mobile, sturdy, can travel overseas and is used to rescue people who need assistance, and that is precisely what the organization does. According to their website, they have had success with the Resettlement Opportunities for Vietnamese Returnees (ROVR) Program, the Humanitarian Resettlement (HR) program, the Priority One refugee program as well as many other organizations that help refugees and the Vietnamese in their community. On an international scale, they tackle large complex issues such as human trafficking and the struggle for human rights in Vietnam. In 2011, they won the Asia Democracy and Human Rights Award from the Taiwan Foundation for Democracy "in recognition of its intensive efforts to combat labor exploitation and trafficking, both in Taiwan itself and East Asia generally."[35] The Vietnamese community has already distinguished itself as capable of making social and political change, but the model minority image will not acknowledge that fact. Recognizing the work the Vietnamese community has done and is capable of doing in the future will encourage people to consider them more often in future political action.

Conclusion

Racial hegemony holds the idea of the model minority so it can retain an image that white majority makes the ideal successful citizens, while colored minorities can only be derivatives of that success at best. This system sees racial issues as if the white group were the authoritative adult while the minority groups are the children. The Asian group is supposedly the picture-perfect child who never whines, always follows the white adults' rules, always does well in school and never gets sick. They are presented as the child that the other children should strive to be, or else they deserve the punishments that follows misbehavior. However, this "family" does not represent any of the racial groups accurately. While it is true that Vietnamese immigrants have worked hard and have been successful within the city of Houston, that does not necessarily mean they do not question U.S. or international policy, and it does not mean that there are no issues or struggles within the community. Also, they may have a different culture with different customs than the rest of the population, but that culture is something that others must seek to understand, not brush off as "alien." While there is some truth to what the "model minority" image implies, those truths have been twisted to serve a racial hegemony that does not want to support the Vietnamese or any other ethnic community. The Vietnamese community has left its unique mark on the city of Houston in the public space and in private space, by land, air and sea, and it will continue to do so in the future.

Endnotes

1. Paul Wong, Chienping Faith Lai, Richard Nagasawa, and Tieming Lin, "Asian Americans as a Model Minority: Self-Perceptions and Perceptions by Other Racial Groups," *Sociological Perspectives* 41, no. 1 (1998): 95-118, 99.
2. Ibid, 100.
3. Carolyn Cullinan, "Becoming American: Vietnamese in Houston," *The World and I*, March 1, 2001, 178.
4. Ibid.
5. Ibid.
6. Ibid.
7. Ibid.
8. Katherine McKittrick, *Demonic Grounds: Black Women and the Cartographies of Struggle* (Minneapolis: University of Minnesota Press, 2006), 44.
9. Cullinan, "Becoming American."
10. Stacey J. Lee, Unraveling the "Model Minority" *Stereotype: Listening to Asian American Youth* (New York: Teachers College Press, 1996), 6.
11. Ibid, 6.
12. Ibid, 6.
13. J.M. Blaut, *The Colonizer's Model of the World: Geographical Diffusionism and Eurocentric History* (New York: The Guilford Press, 1993), 9.
14. Ibid, 9.
15. Ibid, 11.
16. Lee, *Unraveling the "Model Minority" Stereotype*, 4.
17. Ibid, 4.
18. Cynthia Leonor Garza, "Radio Saigon Lures Vietnamese to Houston," *Houston Chronicle*, July 31, 2007.
19. Ibid.
20. Ibid.
21. Ibid.
22. Cullinan, "Becoming American."
23. Ibid.
24. Rosalind S. Chou and Joe R. Feagin, *The Myth of the Model Minority: Asian Americans Facing Racism* (Boulder, CO: Paradigm Publishers, 2008), 130.
25. Ibid, 130.
26. J.A Chilton, B.J Gor, R.A Hajek, and L.A Jones, "Cervical Cancer Among Vietnamese Women: Efforts To Define the Problem Among Houston's Population," *Gynecologic Oncology* 99.3 (2005): S203-S206.
27. Ibid.
28. Ibid.
29. Ibid.
30. Melissa Amschwand, Amye Benson, Michael Leger, and Hong Nguyen, "Caring for Houston's Vietnamese Population," *Case Manager* 11, issue 2 (2000): 83-86, 84.
31. Ibid, 84.

32. Ibid, 84.
33. Ibid, 84–85.
34. Lee, Unraveling the *"Model Minority" Stereotype*, 7.
35. "2011 ADHRA Award," Boat People SOS website, accessed December 20, 2013.